OHIO STATE UNIVERSITY
APR 16 1932
LIBRARY

F43
v.85

# FIRE ENGINEERING

*The Journal of the Fire Protection Profession Since 1877*

Vol. 85, No. 4 APRIL, 1932 Member A.B.C.-A.B.P.

Five Blocks Were Razed by a Conflagration in Penn's Grove, N. J., Early in March

# PIRSCH

## *announces the*

# JUNIOR

# AERIAL LADDER HOIST

### *Another Outstanding Pirsch Development Available for Mounting on City Service Ladder Trucks*

**NOW one man and the comparatively economical ladder hoist can do the job formerly requiring from four to six men—and it does a better job!**

**Regardless of what make of ladder truck you are now using, we can attach this unit, giving you an efficient aerial outfit at an extremely low cost. Just note these features:**

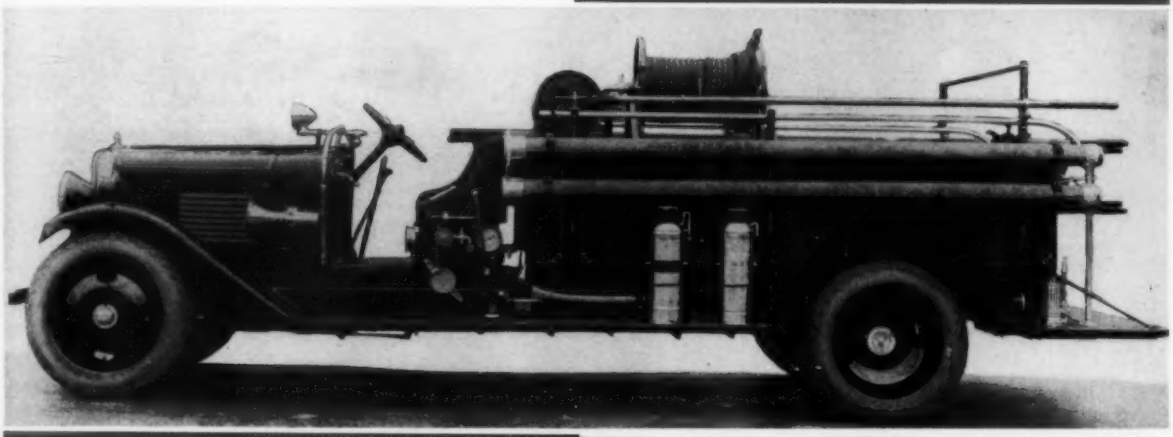
1. This device is available on new service trucks of Pirsch manufacture. All models.
2. It is possible to install this device on service trucks of our own make, or other makes already in service.
3. The main ladder which is used in connection with this hoist, must not necessarily remain on the ladder truck permanently, or in the hoist permanently—if necessary, it may be removed from the hoist and used for ground work in the ordinary way.
4. By the use of this device, at least three feet is added to the length of the main extension ladder on service trucks, as the distance from the ground to the end of the ladder when it is in a raised position, is gained.
5. One man, or not more than two men accomplish the same results procured by four to eight men under the old method of raising extension ladders from the ground.
6. Volunteer fire departments and city ladder truck companies which are undermanned, especially during this period of municipal economy, will find this device of great advantage in raising ladders at a fire, which would be impossible in the event several firemen are not available under the old method of raising the ladder.

● This hoisting device will fill a long felt want in hundreds of departments. Other chiefs will be talking about it everywhere they meet. We suggest that you drop us a line now asking for full information on this new job—no obligation. Remember this is something new—something you should know about. Write for details now.

PETER PIRSCH & SONS CO.
KENOSHA, WIS.

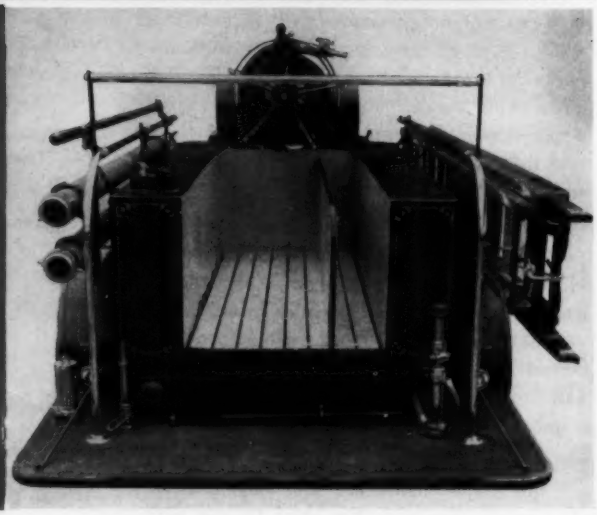
*"Clang, clang, will go the gong. Don't worry about the water for we bring that right along."*

It was **STUTZ** that introduced worm drive and pneumatic tires to the fire field. You all know what followed our lead.



**NOW**

**STUTZ** comes out with the **TOWN & COUNTRY** model—entirely **NEW**—for **RURAL FIRE PROTECTION**



STUTZ

Limited amount of territory open for distributors

BEFORE you buy another piece of apparatus be sure and get the complete story of this new and absolutely different rural job. It embodies such new features as the new and exclusive Stutz combination tank and hose body with carrying capacity of 1000' of 2½" fire hose and 350 gallons of water permanently connected to the fire pump.

The arrangement allows even load distribution. Conventional in looks. Truthfully a town and country fire engine. Available sizes 350 to 750 gallons per minute pumping capacity.

**THE NEW STUTZ FIRE APPARATUS CO.**
HARTFORD CITY, INDIANA

*A Consolidation of* FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

# FIRE ENGINEERING

*The Journal of the Fire Protection Profession Since 1877*

R. H. LOCKWOOD, Associate Editor
FRED SHEPPERD, Editor
N. N. WOLPERT, Assistant Editor

EDITORIAL ADVISORY BOARD

JOHN KENLON, Ex-Chief, New York Fire Dept. Founder of New York Fire College
JOHN C. MORAN, Chief, Fire Department Hartford, Conn.
GEO. J. KUSS, Former Deputy Chief N. Y. F. D.; Lecturer on Fire Fighting, Delehanty Institute, N. Y.
A. A. BELL, Chief of Fire Brigade and Engineer "America Fore" Group of Fire Insurance Cos.

## Telling the World

WHEN Gus L. Day, ex-chief of Mendham, N. J., recently placed on the market his new metal hose bridge which protects hose and keeps traffic moving, he knew from experience that he had something every fire department needs. But he knew, too, that it would remain a deep, dark secret unless he told the whole fire fighting world about it—and he did. Here's what he writes:

"I am glad to inform you that my first advertisement featuring the Day Metal Hose Bridge, which appeared in the March issue of FIRE ENGINEERING, is bringing me very satisfactory returns. I have already received inquiries from quite a few fire chiefs and fire equipment houses and expect to do a good business as a result."

All of which proves, for one thing, that fire departments are still buying what they need. Probably the chief trouble with business today is that too many people have stopped selling, eh wot?

*The Publishers*

## IN THIS ISSUE

VOL. 85 April, 1932 No. 4

Page

With the Editor (Editorial) ..... 141
By Fred Shepperd
The New York Examination.

Something New in Fire Foam (Illustrated) ..... 142
A Method of Generating Foam by the Mechanical Mixing of Air, Water and a Soap-base Developed by Danish Engineers.

Humanitarian Results Obtained Justify Rescue Squads in Small Cities (Portrait—Illustrated) ..... 144
By Chief Edward T. Miles

Illustrative Cases Showing the Courts' Interpretation of Compensation Laws for Firemen ..... 148
By Leo T. Parker

The Volunteer Fire Department (Illustrated) ..... 151
By N. N. Wolpert
Miscellaneous Fire Department Tools.

The Round Table Department ..... 153
Discussion on Safeguarding Institution Inmates from Fire Hazards.

Questions and Answers ..... 156

Recent Important Fires Specially Reported (Illustrated) ..... 159

Fire Department Improvements ..... 164
Record of Business Activities in the Fire Protection Field.

False Alarm ..... 170
Humorous Side of the Fire-Fighting Profession.

MEMBER
Audit Bureau of Circulations
Associated Business Papers

*Published the tenth of each month by*
CASE - SHEPPERD - MANN PUBLISHING CORPORATION
*Also publishers of "Water Works Engineering," and "Municipal Sanitation"*
General Offices—24 West 40th St., New York

SUBSCRIPTION PRICE
U. S., $2 a year; Canada, $2.50
Foreign, $3; Single copies, 25c

KARL M. MANN, President
I. HERBERT CASE, Vice-Pres. and General Manager
W. J. GIBSON, Advertising Manager
H. S. ESSEX, Production Manager

CHICAGO: 30 No. Michigan Ave.—W. S. CLEVENGER, L. M. ROCHE; SAN FRANCISCO: 1045 Sansome St.—C. H. WOOLLEY, W. V. WOEHLKE.

*Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.*

*Contents of this issue copyrighted, 1932, by the Case-Shepperd-Mann Publishing Corp.*

# That most important ALL-WEATHER TREAD Grip!

*Three of the six modern fire-fighting units purchased in September, 1930, by the city of El Paso, Texas, all on Goodyear Balloon Truck Tires all-round with the exception of the Aerial in the foreground, on Goodyear Balloons front and Goodyear A.W.T. Dual Solids rear*

"The non-skid traction of the All-Weather Tread has been most important, especially when answering an alarm in rainy weather when the pavement is slick."

So writes Chief John T. Sullivan of the performance of Goodyear All-Weather Tread Balloon Tires in El Paso Fire Department service.

"They also enable us to negotiate soft ground successfully," Chief Sullivan adds, "whereas solid tires used to cause delay."

El Paso's highly efficient Fire Department has known the qualities of Goodyear Balloon Tires since the first changeover to pneumatics on an American La France Hook and Ladder Truck nearly five years ago. Now all its new apparatus is on Goodyears.

*Hold-fast traction, reliable strength and freedom from trouble, and long, economical wear — these are the outstanding qualities of Goodyear All-Weather Tread Balloons.*

*Extra valuable, too, are the advantages of Goodyear K-Rims — noted for their ease of operation, with open valve stem slot and split base; for their safety in service, and for their interchangeable mounting*

See your nearest Goodyear Truck Tire Service Station Dealer for information as to types and sizes — or write to the Government Sales Department, Goodyear, Akron, Ohio, or Los Angeles, California.

THE GREATEST NAME IN RUBBER

GOODYEAR

**ON YOUR NEW TRUCKS SPECIFY GOODYEAR BALLOONS**

# ELLEHAMMER'S
## Revolutionary

**AIRFOAM** consists of
90% AIR
9.8% WATER
0.2% EXTRACT

## *7,000 Gallons Can Be Made For About Five Dollars*

THE accompanying Press photograph is that of a 1,000-gallon tar fire in a Danish roof-paper plant.

The fire brigade responded with its newly acquired 35 cubic feet per minute AIRFOAM pump.

On arrival, the building was enveloped in flames. Within 35 minutes, by the sole use of AIRFOAM, the fire was extinguished and the damage, considering the nature of the fire, was slight.

The photograph shows the Danish fire-officers inspecting the building after the fire. The fluid is NOT water, but TAR that has been extinguished by AIRFOAM.

*It will help if you will mention* FIRE ENGINEERING *when writing advertisers*

# Invention—
# MECHANICALLY MADE
# AIRFOAM

## *Better, More Practical, Far Less Costly Than Ordinary Chemically Made Foam*

WITH the perfection of the radically new AIRFOAM method of producing foam *mechanically* through the medium of the Ellehammer Airfoam Pump, modern science now gives to the fire fighting world a revolutionary innovation of outstanding importance.

Exhaustive tests and actual fire fighting experience in Europe during the past two years have clearly proven mechanically-made AIRFOAM to be vastly superior to chemically-made foam. It is not only far more practical in every way, but costs next to nothing in comparison.

The Ellehammer Airfoam Pump, which produces the mechanical AIRFOAM, is simple, compact and can readily be connected to any automobile drive or crank shaft or to an electric motor. It requires no hydrant or pump pressure other than its own, and neither does it need an abundant supply of water. The unusual principle of the AIRFOAM method, using as it does such a relatively small percentage of water and only a fractional amount of extract, makes it possible to produce almost unlimited quantities of AIRFOAM at any fire. Too, mechanical AIRFOAM contains nothing that will damage even the daintiest of fabrics and neither does it cause any water damage.

All in all, the AIRFOAM method is ideally suited to the modern fire fighting needs of America.

### FURTHER INFORMATION

More complete descriptive data covering mechanical AIRFOAM will gladly be sent upon request. We particularly invite correspondence from fire apparatus manufacturers or others interested in the American rights.

*See* AIRFOAM *in the movies!*

News reels showing an AIRFOAM demonstration in Paris were taken recently by Paramount, Fox, Pathe, and Movie-Tone Weekly and are now being shown throughout America. Your local film exchange will tell you when these pictures are to be shown in your city. Don't miss them —they're worth seeing.

*Address all inquiries to*

# KAEGI and POVELSEN

(Owners of World Patent Rights)

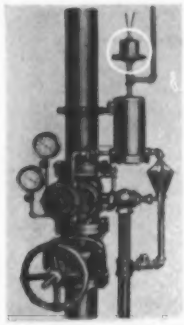
## 40, DuFourstrasse, Zurich (8), Switzerland

# GAMEWELL SPRINKLER WATCHMAN

## *supervises* 2604 SPRINKLER HEADS *in new* WESTERN ELECTRIC WAREHOUSE

This is the **Sprinkler Watchman** which automatically sends an alarm to the municipal fire department when a sprinkler head goes off. An alarm can also be manually transmitted as shown, by a person discovering a fire before the sprinklers operate.

In this modern warehouse just erected at Watertown, Mass., by the New England Telephone & Telegraph Company and occupied by the Western Electric Company, **2604** sprinkler heads which make up three wet and one dry pipe sprinkler systems, are constantly supervised by a Gamewell **Sprinkler Watchman.**



Circuit opener (encircled) on this Rockwood sprinkler valve connects the sprinkler system with the Gamewell **Sprinkler Watchman.**

The Gamewell **Sprinkler Watchman** is the simplest, quickest, most reliable and least expensive of all forms of sprinkler supervision. It consists simply of:

1. A Gamewell municipal fire alarm box (master model)
2. A circuit opener for each sprinkler riser valve
3. A pressure pump of the hand or automatic type (needed only on wet pipe systems)

When a sprinkler head goes off, the flow of water operates the riser valve of the sprinkler system which in turn causes the circuit opener to trip the fire alarm box, and the latter transmits its signal **directly** to the municipal fire department.

An alarm can be sent manually from any floor of a building through one of these Remote Control Stations connected with the **Sprinkler Watchman.**

Every fire chief should offer **Sprinkler Watchman** protection to the business concerns in his city. They are the heavy taxpayers—contributing most toward the operation of the fire department. Furthermore, they are the lifeblood of your community. Serious fire or water damage would badly cripple any one of them or perhaps drive it out of business, thus seriously affecting the prosperity of your city.

Being a fire chief, you know the value of a prompt alarm. Through the installation of **Sprinkler Watchmen** you can make every sprinkler head in your city a fire department nerve that will automatically notify you when a fire starts. Hundreds of **Sprinkler Watchmen** are now in service in all parts of the country.

***Let Gamewell Fire Alarm Boxes Keep an Eye on the Sprinkler Systems of Your City***

# THE GAMEWELL COMPANY

NEWTON, MASSACHUSETTS

# FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 85 APRIL, 1932 Number 4

## With the Editor

**The New York Examination**

Now that the excitement incidental to the announcement of ratings and the induction of the new Chief of the New York Fire Department into service has passed, there are certain features of the examination which deserve review.

That a capable officer was selected cannot be questioned, but some of the examination questions are open to severe criticism. Part a, Question 3, instructed the candidates to "sketch an absorption type of refrigerating system and describe briefly its method of function and operation." Why such a question should be asked the candidates in the examination for Chief of the Department is beyond comprehension.

In the first place this particular type of refrigerating apparatus is largely employed in marine use, where high refrigerant pressures, in the case of dangerous gases, are avoided where possible. Furthermore, the Chief of the Department never has the responsibility of shutting off or manipulating such plants in the event of fire. In the case of a steamship, employees of the vessel are called on to do this. In the limited installations on land, the district officers, through inspections of their districts, would be expected to know the methods of shutting off or draining the systems; the Chief would never have occasion to do such work.

Incidentally, it would be extremely interesting to know how many candidates, and which, were able to make this drawing.

Another question was asked, covering the chemical, physical and physiological properties of some twenty chemicals, including methods of storage and handling them.

Here again the examination is open to severe criticism. A chemist in the Bureau of Fire Prevention might well be expected to be able to answer these questions, but they should certainly never be asked candicates for the position of Chief.

Whoever propounded the questions either did not understand the duties of Chief of Fire Department or else they were not particularly concerned in securing the most experienced man for the job.

The National Board of Fire Underwriters was credited with preparing and rating those technical questions included under the heading of "Administration." While the engineers of this organization are unquestionably capable in fire prevention engineering lines, they should, for more than one reason, be barred from preparing and rating questions in promotional examination for fire fighting officers. In the first place there are plenty of capable engineers who have had experience in actual fire fighting—not fire fighting on paper—who might be called in and who would meet the requirements of the Civil Service Commission. Secondly, it is inconsistent that the National Board should serve in this capacity. It is on a par with calling upon a large manufacturer of fire apparatus to prepare and rate such papers. The National Board, like the fire apparatus manufacturer, is interested in certain municipal privileges, and although, in the case of the present examinations there is no reason to question anyone's honesty, nevertheless, the situation is awkward, in that the temptation to play politics is present in a marked degree.

The time has come when such work should be withheld from the National Board of Fire Underwriters and, instead, be prepared and rated only by those who have actually fought fires. It is decidedly inconsistent that examining candidates on fire-fighting ability should be delegated to men whose "experience" in fire fighting is secured second hand.

Fred. Sheppard

# Something New in Fire Foam

Equipment for generating foam by the mechanical mixing of air, water and a soap-base ingredient has been developed by Danish engineers for smothering fires. Claims are made that this type of foam is superior in some respects to foam produced as the result of chemical reactions.

TWO Danish engineers have developed a new method of generating foam which is used for extinguishing fire through smothering action, by which air is excluded from the zone of combustion. Instead of generating foam through the chemical action of certain ingredients, the foam is made by mechanical means using saponin, which is a base for the manufacture of the better grades of soap.

The Chief Officer of the Fire Department of Stockholm, Sweden, who has had considerable experience with the new foam, and the apparatus which generates it, has stated:

"The new foam consists of 90% air, 9.8% water and 0.2% of saponin solution. The Fire Brigade of Stockholm has mounted such pumps of 400-gallon capacity on two pumpers carrying a supply of thirty-six gallons of the solution. This is sufficient for about seventy minutes continuous operation and is capable of producing about 30,000 gallons of foam.

"The specific gravity of foam is 0.16, or about seven times lighter than water. This explains why the foam could be pumped to great heights."

The American practice of foam generation is brought about through a chemical reaction when foam powders are brought in contact with water, or when two solutions known as A and B are permitted to mix. The powders are fed into a hose line, by means of hoppers, and the chemical reaction takes place while the powders are being dissolved in the water and are passing through the hose line.

### Questions Presented

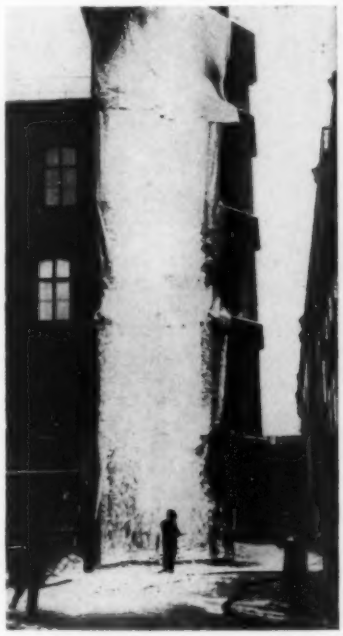
To obtain accurate data on the new mechanically produced foam, FIRE ENGINEERING submitted the following questions to the Chief Officer of Stockholm, Sweden:

1. Does the foam endure heat as well as that produced by present methods?
2. Does it last as long as the present types of foam when applied over the surface of a tank of heated oil?
3. Is the "saponin" a patented chemical or is it some form of soap such as is commonly used for laundry work?
4. Can a foam of sufficient dryness be produced to prevent sputtering or boiling over of oil tanks when the foam is applied directly to the surface of the fire?

The following information was received in reply:

"1. The mechanical foam endures heat better than the chemical foam.

"2. The mechanical foam lasts as long, if not longer, than the present type of foam, when applied over the surface of a tank of heated oil.

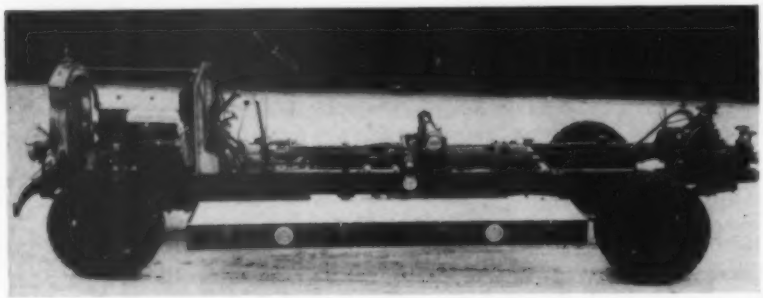


Foam Can Be Directed to Great Heights

"3. Saponin is not a patented chemical but is being used to some extent for making certain superior kinds of soap. If I am properly informed, the chemical foam powder also contains a small percentage of saponin. The saponin is obtained from the soap tree Quillajae Saponari, the bark of which contains about nine per cent of saponin.

"4. Without question, a foam can be produced to prevent the boiling over of oil tanks. In Sweden most oil plants are protected by foam installations, the last two installations being of the mechanical foam design. The foam is conveyed in iron pipes from the generating point up to the top of the tank where the pipes spread out into a form of ditch and then drop at a forty-five degree angle alongside the wall of the tank towards the bottom. The ditch is cut up into sectional gaps allowing the foam to spread out wherever it reaches the oil surface. The advantage of this arrangement is that the foam does not drop below the oil surface when it falls from the top of the tank. The foam is spared from the heat of the tank. I think this method is of great advantage for fighting fires.

"We have made some fine tests with this mechanical foam which should be of great interest. Our standard 63 mm. (2.47 inches) hose and a line about 150 meters (492 feet) long was connected from the generating pump to the top of a



**Chassis of Apparatus Equipped with Foam Generator**

This Stockholm (Sweden) car is equipped with a 2,000 liters per minute centrifugal pump and a 1800 to 2000 foam pump in the middle of the chassis.

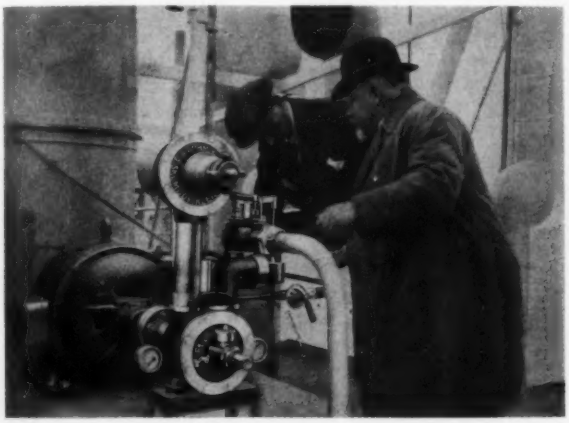
building 64 meters (210 feet) high. After 1½ minutes, we had a fine jet of foam through a 30 mm. (1.18 inches) nozzle. Other tests were made. During all the tests, the foam was of excellent quality.

"The crude saponin has to be mixed in the proportion of 1 kilogram of saponin to five liters of water (1 pound to 0.6 U. S. gallon) to get the right proportion of the saponin solution."

### Operation of Foam Generating Apparatus

The foam generating apparatus is connected to the pump shaft of a stationary installation such as is used for the protection of a large ship, or it can be connected to a pump which in turn is coupled with the crank shaft of a motor as in motorized pumper installations.

According to Dr. F. O. Weber, a chemist, foam produced by mechanical means lasts longer than foam produced by chemical reactions as the air foam contains no inorganic salts or acids to diminish the surface tension of the film.



Installation on Board the Motorship "Gertrud Maersk"

Tests conducted in the laboratory of the Technical High School, Dresden, proved that an air foam jet 2 meters (6.56 feet) away had absolutely no conducting power when the stream was directed on a wire carrying 80,000 volts a.c.

### Three Ingredients Produce Foam

But three things, as described by the Chief Officer of Stockholm, are used to produce the mechanically mixed foam—air, water and a concentrated foam producing liquid. The pump draws the three ingredients through a mixing apparatus. In the pump the mixture is compressed to from 45-60 pounds pressure. The volume ratio between the liquid and the air, which during the pumping was in the approximate ratio of 1:10, is now 1:3. By means of a beating device in the mixing apparatus, the final product is a liquid in which the air is divided into small bubbles. As the liquid flows through the hose, the pressure is slowly decreased and the air bubbles are slowly expanding in size.

As the foam is ejected through the nozzle, the last expansion of the bubbles takes place. During this process of air changes, the entire quantity of liquid is turned into small films which surround the air bubbles.

Claims are made that the mechanically made foam will last from three to five hours.

A report received on the use of this type of foam by firemen of Copenhagen, Denmark, for extinguishing a coal-tar pitch fire which started in a factory for tarred paper near Gamle Kogelandwej discloses the following information:

### Experience at Fires

Fire broke out in one of the large enclosed boilers in a building where tar was distilled for making the tarred paper roofing. A heavy iron door was blown out and flames rose considerably above the height of the building. When firemen arrived in command of Chief Friis and Vice-Chief Thisted, the 1,000 gallons of coal-tar pitch were nothing but a sea of flames. The whole building was so enveloped in smoke that the firemen were forced to wear gas masks, and the heat was so intense that asbestos suits were worn. The fire was soon extinguished with the use of the foam.

This foam was also successfully used in extinguishing a fire which broke out in a factory manufacturing cork articles in the province of Hedehusene near Copenhagen, Denmark. An air foam pump was rushed to the scene. It worked on the fire for two hours and only two men were required to look after the pump.

The device has been undergoing tests for two years, and while not generally known in this country, it is being marketed in Europe through offices in Switzerland and in Paris.

## Rhode Island Chiefs' Club Meets

Thomas A. Donahue, District Chief of the Boston Fire Department and lecturer at the Boston Fire College, gave a talk on changing fire-fighting methods at meeting of the Fire Chiefs' Club of Rhode Island that was held in Providence, March 10. President Frank Charlesworth presided.

The speaker touched on some of the conflagrations that occurred during the past years and showed that in spite of improved fire-fighting methods, the losses are becoming greater. He urged that more thought be given to fire prevention.

Chief Donahue was elected an honorary member of the club. The members approved an act which will be introduced in the legislature to compel every town not having an incorporated fire district, to appropriate at the annual fire meeting not less than four cents on each $100 assessed valuation. As a punishment, any town not doing so will not receive state aid for any of the various town departments as provided for by state law. This act is drafted to enable volunteer units to secure money to support their work.

Four new members were elected. Deputy Chief John H. Fischer, Providence, and former Assistant Chief Charles E. Round, Warren, were appointed to the Board of Directors.

The President announced that Chief Daniel B. Tierney of Arlington, Mass., will be the speaker at the next meeting.

Sides of a Building in Copenhagen Being Coated with "Mechanically Mixed" Foam

## Humanitarian Results Obtained Justify

# Rescue Squads in Small Cities

Chief Edward T. Miles

By EDWARD T. MILES,
Chief of Fire Department,
Newport, Ky.

RESCUE squads or companies in Fire Departments whose principal duties are those pertaining to rescue work, are found in practically all of our large cities today but there are comparatively few such squads or companies maintained in the Fire or Police Departments of our smaller cities, towns, and villages. The services such squads or companies render and are prepared to render are varied, wide in scope, and certainly humanitarian. Who will say that it is not as important to make such services available to the citizens or our smaller cities as to those in our larger cities? The hazards of drowning, electric shock, gas asphyxiation, automobile and other wrecks, and countless others are no respecters of cities, towns, or villages. It is true that accidents from such hazards do not occur as often numerically in smaller cities because of the lesser population. The chances of major catastrophes are less for the same reason. However no one would even intimate that it is not as necessary and desirable to save life in our smaller communities as it is in our more densely populated centers.

Since it is true that unexpected accidents, often resulting fatally, do happen in small as well as in large cities, to me it is axiomatic that all cities, small as well as large, should provide arrangements and facilities to prevent, in as great degree as possible, these accidents from resulting fatally.

### Need for Prompt Trained Aid

All cases of suspended or weak respiration, such as those due to electric shock, drowning, gas asphyxiation, sunstroke, physical shock, dizziness, fainting, etc., are cases in which a rescue squad, or men trained in artificial respiration and the use of an inhalator, can render invaluable service. Men trained in first aid and with first aid equipment available can be of similar service in cases of all kinds of accidents where individuals are likely to be injured. Simple wounds, broken bones, or even severed arteries are not particularly serious or dangerous to life, if the victim is given proper first aid treatment and promptly turned over or transported to a doctor or hospital.

It is easy for a person to bleed to death in a very short time if arterial bleeding is not checked; to contract a serious infection if wounds and burns are not properly covered with sterile dressings immediately after their occurrence; or for a simple fracture to be converted into a very serious compound fracture, with the incident danger of arterial bleeding or dangerous infection or both, if the injured person is not splinted and handled properly before he is moved from the scene of the accident to a hospital or doctor. Our rescue squad in Newport with its Inhalator equipment has been called by doctors to cases of still-born babies and I am proud to say that it is generally recognized by all concerned that several of these babies are alive today who would not be had the squad and its Inhalator equipment not been called.

We have been called in several instances to attempted suicide cases by both gas and poison in time to prevent the victim from dying. In a couple of such cases frantic but unsuccessful attempts were made to get a doctor before the squad was called. The kinds and number of cases a rescue squad can be of inestimable help to are far too varied and numerous to mention here in detail. It would do no harm to call the rescue squad to any emergency case or any case requiring immediate attention and assistance; in many of these it will be found that these trained men with their equipment will be a wonderful and vital help.

### Squad Does Not Take Place of Physician

Of course the first person to be called in case of an accident or injury is a physician. It should be unequivocably understood that the rescue squad does not in any way supersede or interferes with the work or attention of a registered physician. Very often, however, particularly at night, a doctor is not instantly avail-

**The Squad Roadster and Equipment**

From R. to L., Panis Resuscitator, large first aid kit, McCaa half-hour apparatus, physician's type H-H Inhalator, two extra inhalator cylinders in carrying case, standard H-H Inhalator, large waterproof and dust-proof first aid kit and two Burrell All Service Masks. Stretcher, blankets and Torridaire hot pads are also carried, though not illustrated.

able. A rescue squad, especially in a paid Fire Department on duty 24 hours a day, always is unless two or more calls come in at or near the same time. This is a rather remote possibility in a small city maintaining but one squad but, if it does happen, the squad can be split up.

On the other hand, very often a doctor does not have or does not carry the equipment necessary to many emergency cases and, though he is able to get to the injured person or persons immediately, he is able to make very good use of the rescue squad and its equipment. On all of our rescue cases here in Newport, if a doctor is not already on hand or has been called when our squad arrives, a member of the squad will see that a doctor is called for immediately. When a doctor is present his wishes are law to our squad members and nothing is done without his permission. The spirit of a rescue squad should be one of helpful cooperation in order to be of maximum service.

The population of Newport is about 35,000; 30 firemen are maintained—15 on each 24 hour shift. These men are split up into 3 companies. Much as we would like to, we do not maintain a separate rescue squad. However all of our men are trained in rescue and first aid work and in the use of the equipment we now have. On each 24 hour shift three men are definitely assigned to take care of any rescue calls and the Assistant Chief on each shift is in charge of the squad. The same three men make up the rescue squad on each shift but they are also members of fire companies and respond to all fires. This means extra work for the men who do both fire and rescue duty but all of our men consider it a privilege to do rescue work. I am sure there is not a man in our department who would not be pleased to be permanently made a member of the rescue squad. I am equally sure this same spirit is and would be manifested in cities where similar conditions exist in the Fire Department.

**Squad Using Resuscitator and Inhalator on Victim**

The Panis Resuscitator accomplishes the Schaefer Prone Pressure method of artificial respiration mechanically and is used on long cases. Manual artificial respiration is used first and while patient is strapped in the Panis Resuscitator.

The call and need for rescue work is just as urgent, though not as frequent, in our small cities, towns, and villages as it is in our largest cities. Are our smaller cities to be without any of this service or equipment just because the call is not as frequent? If our smaller cities waited until they could pattern their Fire Department, fire station houses, and fire-fighting equipment after New York or Chicago we never would have any fire protection and our fire losses would be appalling. If we wait until we can pattern our rescue squads and facilities after those in the aforementioned cities we never will have any rescue protection.

**Members of Newport Fire Department Grouped About Squad Car**

### Need for Proper Rescue Equipment

It is not within my province to say what other communities should do. It is well known, however, that practically all communities with a governing body of some sort have some kind of fire protective or fire fighting equipment and personnel. The need for this is forcibly called to our attention by the rates for fire insurance—they are much lower when the fire-fighting equipment and personnel is adequate. Unfortunately there is no such gauge for the need of rescue equipment or personnel. It has been said that every city maintaining a paid Fire Department should maintain a rescue squad. This, I think, is entirely true. However, I think it is also true that all communities which maintain mobile fire apparatus should have some rescue equipment. Judging from the amount of work we have done in a space of less than three years with our small amount of equipment I would say that no community should be without an inhalator. This represents an investment of but $160—certainly an infinitesimal amount compared to a human life lost or saved and the investment in other equipment considered necessary for the saving of property. First aid kits and gas masks are likewise ridiculously inexpensive compared to what can be accomplished toward the saving of human lives with their intelligent use.

### Training in Use of Equipment Easy to Obtain

No equipment is of any value unless those who have it know how to use it. Any Fire Department, paid or volunteer, can have its men trained in the use of first aid material and rescue apparatus without cost. The representatives of manufacturers of such equipment are qualified and willing to train and instruct men in its use. The American Red Cross Association and United States Bureau of Mines also train men in first aid and rescue work without cost. I am also sure that public spirited physicians in any communities would be glad to instruct Fire Department members in intelligent and helpful action around injured people—victims of hazards which exist in all communities.

Admitting that rescue facilities are necessary and desirable in all communities; who or what department or bureau is better fitted to make them available and ready to go at all times than the Fire Department? The Fire Department has mobile automotive equipment available and ready to go at all times, on which apparatus and first aid equipment can be kept. In every community

maintaining fire equipment there is always some provision made for getting the Fire Department and equipment out on a moment's notice and for getting the Fire Department members out to man the equipment. In other words the Fire Department is always on call.

### The Provision of Facilities for Work

The function of a Fire Department is commonly considered to be the protection and saving of life and property. Since life saving and rescue work has progressed and been simplified to the extent it has, it appears to me that it is the absolute duty of every Fire Chief to investigate the possibility of instituting some sort of life saving and rescue facilities if they have not already provided them. It will be found that but little extra expense is required. I know of several Chiefs who, when unsuccessful in getting their city governing bodies to consent to the purchase of necessary equipment for life saving work, persuaded local organizations

**Three Members of Squad**

The two at the left are equipped with Burrell All Service Masks and the member on the right with McCaa Half-hour Self-Contained Oxygen Breathing Apparatus.

such as the Chamber of Commerce, Rotary, or Kiwanis Clubs to finance it. Another volunteer Fire Department purchased an inhalator and first aid kit out of its own entertainment and clothing fund. Such men and such departments are deserving of the highest praise for their unselfish and public spirited interest. I am glad to say however that neither of these procedures was necessary in Newport.

It is well known that Fire Departments are called on for plenty of work besides straight fire fighting. I am sure that any Chief and the members of any Fire Department would feel very regretful, remorseful, and perhaps even humiliated if the department were called to an emergency case such as drowning, electric shock, or gas poisoning and were unable to effect a possible rescue or saving of life because of the lack of equipment, training, or both. No one can ask any department or individual for more than its or his best efforts with the available equipment in any kind of work. However departments and individuals can and should be asked to improve themselves and their equipment so as to enlarge both the scope and quality of their work. The responsibility for having or not having the proper equipment and the men properly trained for rescue or life saving work rests, as I see it, entirely with the Chief of the Fire Department and not, as many may believe, with the City Council or other governing body.

Previous to June, 1929, Newport had no rescue or life saving facilities, though the excellent work done by the rescue squads of the Cincinnati, Ohio and Covington, Ky., Fire Departments in this vicinity was well known and generally appreciated. In June, 1929, we purchased an H-H Inhalator with spare carbogen cylinders, two first aid kits, three All Service gas masks, and one McCaa ½ hour self-contained oxygen breathing apparatus from the Mine Safety Appliances Company and a representative of this company trained all of our Fire Department members in first aid, life saving work, and the use of this apparatus. Since this time we have also received valuable instruction and training from Capt. S. G. Render, of the Kentucky Actuarial Bureau. Right from the start we received calls for life saving work and the number of calls has increased steadily. It would be foolish to say that accidents and emergencies at which we could be of service did not occur before we were equipped to handle them. Of course they did but the Fire Department was not called either because it was known that we were not equipped and trained for this work or, because no one thought of calling the Fire Department. It is certainly logical to believe that the same is true of other cities.

### Many Lives to Credit of Squad

Our equipment and squad members are carried on a small Ford roadster, purchased particularly for this work, and the organization of the squad is as outlined previously. Since the organization of our squad we have responded to 215 calls for rescue work. A complete record of these calls showing time of call, length and kind of service at each, character of accident or emergency, and results obtained is made and preserved. It is very interesting and gratifying to consider the number and different kinds of emergencies we have been able to render service on. To date we can claim 47 lives definitely saved which in all probability would otherwise have been lost if our squad had not responded promptly or been equipped and qualified for the work it was called upon to do.

Most of our cases are those due to suspended or weak and difficult respiration, such as caused by gas or other poisoning, drowning, electric shock, or sickness. These necessitate the use of the inhalator and, if breathing has stopped or is so faint that death is imminent, artificial respiration in conjunction with the inhalator. We have rendered valuable services at confinement and other sickness cases such as pneumonia and asthma when breathing became so difficult it was thought the patient could not pull through. We have also, as mentioned previously, been successful with several cases of stillborn babies, in which it was extremely difficult to get the infant to breathe. Our cases are too numerous and too different to describe in detail. It is sufficient to say that we feel we are rendering our city noteworthy services in this class of work and are justly proud of our achievements.

### Not All Cases Successfully Handled

It should not be assumed that all cases can or have been handled successfully. We have been called when all we could accomplish was to recover a dead body. At other times we have worked unsuccessfully for four hours on victims of asphyxiation. On several occasions we have responded to calls for victims of both heart failure and natural deaths. Such cases are both disheartening and discouraging and it is necessary to consider them truthfully and frankly to keep the men from being discouraged—their work and willing spirit is no

less valuable and praiseworthy whether it ends successfully or not. Obviously, no one can bring a man back to life after he is actually dead and some victims will die no matter what is done for them. We do all we can on every case and continue to work until the victim is pronounced dead by a physician or until rigor mortis sets in. To the best of our knowledge we are now equipped and trained to do all it is possible for laymen to do to sustain life and revive an unconscious person. It is our ambition and hope to keep abreast of new developments in equipment and procedure so as to always be able to do everything possible for unfortunate victims we may be called on to serve.

### Valuable Newspaper Publicity

Reasonable and dignified publicity can play a big part in efficient life saving and rescue work. A perfectly trained squad with the best equipment obtainable would not be of much value to any city if the public at large were not generally informed of its existence or the work it is capable of doing. There are many ways of accomplishing this and the best procedure will have to be determined by each department. In Newport as soon as our squad was formed and equipped we called in the newspaper reporters; put on a demonstration for them; and went over and outlined our equipment and facilities for service in detail. All of our papers carried illustrated news items of this development. Since the inception of our squad its activities have been and are closely followed by newspaper reporters so that the public in general knows what we are equipped to do, what we have done, and what we attempt to do. This publicity has been invaluable in both acquainting our citizens with our life saving facilities and in promoting a different feeling toward the Fire Department than ever existed before.

### Demonstrations Before Public School Children

Once each year we stage a life saving demonstration before the assembled children of each of our public schools. I am sure that practically every child of school age in Newport knows that their Fire Department is capable of doing other work than straight fire fighting and that these children would call on the Fire Department without hesitation if a serious accident came to their attention. We have had to date 255 calls for minor first aid treatment at the fire station for scratches, cuts, and burns both on the part of children and adults. This sort of call was unheard of before we went into life saving and rescue work. It may be said that such as the aforementioned work encroaches on the work of physicians but we do not think so. If an injury is in any way serious or shows signs of an infection the injured individual is strongly urged to go to a physician with it. On the other hand I am reasonably certain that the slight injuries we have taken care of in the fire station would never have been taken to a physician and that many of them would never have been dressed at all.

It is easy for any one, Fire Chief or otherwise, to adopt the "What Does it Matter" or "Do Nothing" attitude. Of course the result is that nothing is done. It is generally recognized that the greatest source of self-satisfaction and happiness is being of service to others. We in Fire Departments have a wonderful opportunity to be of inestimable humanitarian service to others. We are failing to take advantage of this opportunity and, in my opinion, are failing to fulfill our entire duty when we neglect to investigate the possibilities of rescue and life saving work.

## MUNICIPAL ECONOMIES MUST NOT BE AIMED AT FIRE DEPARTMENTS

**Decreasing Size of Force or Operating Appropriation May Result in a Serious Financial and Industrial Loss to Community**

By Joseph N. Sullivan
Chief of Fire Department, Utica, N. Y.

WITH the paring of yearly budgets becoming a general practice by municipalities throughout the country, fire executives must courageously oppose slashes in appropriations to guard against undermanned and under-equipped departments.

The Fire Department is one branch of the city government that does not have any less work to do because of the depression. In fact, the fire business is on the gain, accelerated by an unprecedented increase in fire of incendiary origin, a direct result of the depression.

If at any time during its organized existence the fire department needs men and equipment, it is today. With economy an absolute necessity for many communities, it would be entirely out of the question to ask for increased appropriations, but such a course would be much more sensible than braving disaster unprepared, the potentialities of fire.

Many facts emphasize the wisdom of making an exception of the Fire Department when swinging the economy axe. If business is to carry on with any prospect of success, industry must be protected so far as fire danger is concerned. If fire visits some industrial plant, the Fire Department must essentially be able to cope with the emergency and cannot offer any apologies, unless unwise cutting of manpower and equipment or failure to replace weaknesses in both, gives a legitimate reason.

A fire can, or cannot, develop into a serious catastrophe, depending largely upon the efficiency of the Fire Department. If the Department is efficient and has maintained its component strength as regards men and equipment, the chances of the fire being mastered with slight damage is good. If on the other hand a budget has been cut at the expense of the Fire Department the chances that the fire will be of serious proportions is improved.

A big fire means to any community increased unemployment, a condition that is certainly unwelcome at this time. Another possibility that should not be overlooked is that the industry may be abandoned entirely due to failure to rebuild or that the plant may be moved elsewhere, making a permanent wound in an already stricken community.

While there undoubtedly is real cause of care in municipal spending, there could be no economic emergency that would justify neglect of the Fire Department and its needs. Equipment wears out during bad times just the same as during times of prosperity and the city that tries to get by without any expense for upkeep or new equipment is treading dangerous paths.

Some municipalities have gone to the extreme of reducing the man power as a hysterical measure to reduce the salary account. This is a grave mistake because an over-manned Fire Department never has existed and the under-manned department is a sorry excuse for an efficient fire protection organization. Cutting wages, while perhaps the least obnoxious of all of the reduction ideas, is a disciplinary measure that should only be resorted to when necessity demands and no alternative is apparent. High wages are likewise unknown among fire executives and men, and a cut of any kind means less money for local circulation. The fireman is almost invariably a free spender.

The saddest blow of all to the fire service would be the abolishing of the two-platoon system which some near-sighted communities are considering. The two-platoon system which is not yet a general practice for all municipal departments is the nearest thing to a humane compensation for the various rigorous deeds that firemen are called upon to perform. If the fireman's life was in reality a life of ease and rest with nothing worth mentioning to do, the two-platoon system would be ambiguous.

However, a firemen's work is real work with plenty of hard jobs and often few if any breathing spells between jobs. This means that a 24-hour period of off-time between shifts or the shorter time of the 10-14 system is frequently a physical requirement rather than a recreation period.

(*Continued on page* 160)

## Illustrative Cases Showing the Courts' Interpretation of

# Compensation Laws for Firemen

By LEO T. PARKER, Attorney-at-Law

PROBABLY the most necessary, as well as interesting and important, phase of the law relating to municipal firemen is the right to recover payment or compensation for injuries. This is true because a fireman's occupation is classified as being extremely hazardous, and due consideration must be given to provision for and assurance of a livable income for a fireman who is injured while performing his regular duties, and to substantial compensation for his dependents in the event of death. Moreover, for the reason that the duties of a fireman are unusually dangerous he deserves payment of a pension at the termination of a reasonable period of rendering such valuable services to the municipality.

### Legal Interpretation of Compensation Laws

In compliance with these necessary requirements and appreciation all states have enacted laws intending to assure payment of compensation to municipal firemen who are injured in performance of duties, or to dependents of firemen who unfortunately are killed while in actual service. However, considerable litigation and discussion has arisen from time to time whether, under varied circumstances resulting in injury or death, payment of compensation is justifiable in view of the wording or formulation of a particular law.

Therefore, it is important to know that the Courts strictly construe the statutes relating to payment of compensation and pensions. This is so because the Courts are not permitted to broaden the legal meaning of a law or the original intended meaning of the law-making body. This point of the law was thoroughly discussed by a higher Court in the recent case of Kotze vs. Montclair Police and Firemen's Pension Commission, 157 Atl. 150.

The facts of this case are that in the year 1892 a man named Kotze became a member of Washington Hose Company, No. 3, a volunteer fire company in the town. This company was a voluntary organization, incorporated under authority of a law for the incorporation of fire companies as private organizations. He continued such membership until 1910, when the town passed an ordinance authorizing organization of a call department, by ordinance dated February 28, 1910. In 1911 Kotze was designated as a member of such department and served therein, at a salary, until 1914, when a paid Fire Department was created, and he became a member and served therein until 1922, when he resigned. From 1914 to 1922 he contributed to the pension fund. In 1920 a state law was enacted which provides, as follows:

"In all municipalities of this State any policeman or fireman, or members of the Police or Fire Departments . . . who shall have honorably served in such Police or Fire Department for a period of twenty years, and attained the age of fifty, shall, upon his own application, be retired on half pay."

In view of the provisions of this law Kotze applied for a pension. The Court strictly interpreted the legal meaning of this law and, in holding Kotze not entitled to a pension, said:

"Prosecutor (Kotze) insists that his service in the volunteer company and the call company are to be counted in computing his service as a basis for pension. With this contention we are unable to agree. The law relates to paid Fire Departments of municipalities, and provides that 20 years of service 'in such . . . department' is required as the basis for retirement with pension. We conclude that the service of prosecutor (Kotze) was not sufficient to support his claim for a pension."

### Subjects Treated in This Article


- Legal Interpretation of Compensation Laws
- Meaning of "Actual Service" from Legal Standpoint
- Defining "Performance of Duties"
- When Substitute Fireman Is Entitled to Compensation
- The Recovering of Compensation by Injured Fireman Under State Laws
- When Fireman May Recover Insurance


### Legal Meaning of "Actual Service"

Various Courts have held that a duly appointed and active member of a Fire Department, who is subject to call while off duty during rest hours, is in "actual service." One higher Court held that if a municipal fireman, while he is off duty, is killed while violating the criminal laws of the state, his dependents are entitled to the pension provided by the regularly adopted rules and regulations of a pension board. The latest higher Court case which has been brought to court involving this phase of the law is Heffernan vs. State, 177 N. E. 43.

The facts of this case are that the rules of a municipal department require employees to devote all of their time to the service. Of necessity they are allotted certain periods for rest and recuperation, during which time they are off duty, but they are subject to call at all times.

Also, a rule and regulation of the pension board entitled municipal employees in this department to compensation and their dependents to a pension if the injury was sustained while such employees were engaged in "actual service."

One day an employee in this department went off duty for the day. Afterward he went to a place for the purpose and with intentions of committing a criminal act. He went to this place solely for purposes of his own, entirely disconnected with any service, and he was

shot as a result of his conduct, which the testimony showed was not only unlawful but criminal.

His dependents sued to recover a pension on the grounds that the employee was subject to call while off duty and that for this reason he was in actual service when he was killed. In upholding this contention, the Court said:

"After careful consideration, we are of the opinion that the trial Court was right in holding that said decedent was in actual service. . . . If it had been the intention of those who made said rules to so limit the benefits from said fund, it would have been easy to have used language clearly indicating said intention, such as 'while in the performance of his official duty.' . . . We are not permitted to determine the intention of the framers of the rules by our idea of what the rules ought to be; their intention must be ascertained from a consideration of the language used, in connection with the provisions of the other rules adopted by them."

### Legal Meaning of "Performance of Duties"

Considerable discussion has arisen from time to time whether or not a municipal fireman is entitled to recover compensation for injuries, or if the dependents are entitled to receive a pension in the event of death of the fireman, where the injury or death results primarily from an affliction of long standing. This point of the law was thoroughly explained in the late case of Buckley vs. Roche, 4 P. (2d) 929.

The facts of this case are that for some time before his death a municipal employee named Buckley had suffered from a heart affliction which at times rendered it necessary for him to temporarily retire from active duty. One day, while Buckley was rapidly climbing a flight of steps, he became short of breath and soon after arriving at the top of the flight he suffered a heart spasm from which thereafter and within a few hours he died.

The widow of Buckley made application to the commission of the municipality for a pension in accordance with the charter of the city which provided, as follows:

"The commission shall provide for the family of any officer, member or employee 'who may be killed or injured while in the performance of his duties,' and who shall have died within three (3) years from the date of such injury. . . ."

The commission refused to pay a pension to the widow on the grounds that the death was not sustained while Buckley was acting in the "performance of his duties."

The widow appealed to the higher Court which promptly reversed the commission's decision and granted the widow a pension, saying:

"The only facts necessary for the widow of Buckley to prove in order to entitle her to a pension under this provision of the charter were that at the time of the death of Buckley she was his lawful wife, and that he died as a result of an injury sustained while in the performance of his duties. Her lawful marriage to Buckley is conceded. The fact that Buckley died as a result of an injury received while in the performance of his duties, we think is conclusively proven. . . . The fact that Buckley had at the time a previous heart affection did not of itself defeat his wife's application for a pension if the exertion in climbing the stairs precipitated his death by aggravating this condition. . . . As he was required in the course of his employment to ascend this stairway, the injury caused thereby was an injury received while in the performance of his duty. His widow was therefore entitled to a pension."

### When Substitute Fireman Is Entitled to Compensation

Numerous Courts have held that unless a state statute distinctly specifies that a substitute fireman is not entitled to compensation or a pension, he may recover payment notwithstanding the fact that the Board of Commissioners endeavors to practice discrimination and refuses to authorize payment.

For example, in the late case of State vs. Donovan, 41 S. W. (2d) 842, it was shown that a state law was enacted which provides that the board of trustees may assess each member of municipal Fire Departments as determined by its rules. It was a matter of option with the board to require the payment of dues from substitutes. The board did not require such firemen substitutes to pay assessments.

A member of a municipal Fire Department named Edwards had not been regularly appointed a member of the Fire Department and was not a member of the firemen's pension and retirement funds. Neither had he paid an initiation fee or monthly dues.

While acting in the performance of the regular duties of a fireman, and in the service of the Fire Department, Edwards sustained fatal injuries. The Board of Trustees refused to pay a pension to the dependents and the latter filed suit requesting the Court to order payment of the same.

During the trial evidence was introduced showing that Edwards had been appointed to the position of substitute in the Fire Department, and when called, had for several months performed the regular duties of a fireman. He was not permitted to hold any other position and was required to be ready for service at any time. The pay rolls of the city and other evidence show that he rendered service and was paid the fixed compensation therefor for 30 days during the month of April; 31 days in May; 20½ days in June; 16 days in July; 31 days in August; 19 days in September; and a portion of the month of October, preceeding his injury and death. He had not paid any fee or dues into any fund available for pension.

It was contended by the Board of Trustees that Edwards' dependents were not entitled to receive the pension because he had failed to contribute to the fund or pay assessments. However, it is important to know that the higher Court held Edwards' dependents entitled to receive payment of the pension, and stated the following important law:

"The fact that Robert J. Edwards was a substitute and not a 'regular' fireman does not preclude the claim of his dependents. It is not a question of the kind or class of fireman to which he belonged, but the material inquiry is: Was he a member of the Fire Department? The statute makes no distinction between members whether regular or irregular, permanent or substitute. Its terms are inclusive and apply to any and all 'members of such Fire Department' and to 'any member of such Fire Department.' We think it obvious that the board in the hearing and disposition of an application for pension has no right to discriminate by the creation of a fictitious class of firemen and thereby exclude a dependent applicant. Nor is it essential that the

**Firemen of University Park, Tex., Complete First Aid Course**

An advance course in first aid, sponsored by the Dallas County Chapter of the American Red Cross, was recently completed by firemen and policemen of University Park, Tex. Men who successfully finished the course were awarded special Red Cross emblems.

deceased should have contributed by way of initiation fee or dues, unless such dues and fees are duly and regularly assessed and required to be paid by the board."

### When Injured Fireman Is Entitled to Receive Compensation

All state Legislatures have enacted laws which authorize payment of compensation under the Workmen's Compensation Laws for injuries to certain classes of employees and workmen. Generally, laws of this nature specifically authorize payment of compensation to only such employees as are engaged in industrial pursuits.

While it is true that a municipal fireman is engaged in a hazardous undertaking, yet it cannot correctly be said that all employees of a municipal Fire Department are entitled to recover compensation for injuries sustained while performing work necessary to the proper conduction and operation of the Fire Department. Neither can it be said that municipal firemen always are entitled to recover compensation under state Workmen's Compensation Laws, because many of these state laws do not read to include municipal firemen.

For illustration, in City of Madill vs. Moss, 300 Pac. 701, it was disclosed that a man named Moss was the City Manager of Madill, Okla. He lived in the City Hall on the second floor, and had charge and supervision of the Water Department and supervised and directed the Fire Department. His work required him to go about the city overseeing the departments, observing what was necessary to be done to keep them functioning properly.

The city had a pump station about three-fourths of a mile southeast of town. At this station there was a fire pump which was used to increase the water pressure for fighting fire. It was automatically operated by an electric push button located on the ground floor of the city hall. There was a stairway leading from the first floor to the second floor where Moss lived, and the push button was in the opposite corner of the City Hall from this stairway. Near the push button was a water-pressure gauge which showed the water pressure on the water line of the city. When the fire alarm was sounded it was the duty of the Moss to watch the gauge in the city hall. When the fire hose was connected he was required to push the electric button to increase the water pressure to operate the fire pump so as to provide sufficient water pressure through the hose for fighting the fire. The time lapsing from the sounding of the fire alarm and the time of operating the pump would vary from two to ten minutes and, when the fire hose was turned off, it was the duty of Moss to push the button, thus stopping the pump. There was a fire pole in the building which was used by the firemen in sliding from the second to the first floor of the city hall.

One day, after a fire alarm had been sounded, instead of going down the stairway to watch the gauge and to push the electric button in reference to increasing the water pressure, Moss slid down the fire pole and contacted the floor, effecting serious injury.

A state law provides for compensation for employees "injured in certain hazardous employment. Hazardous employment shall mean manual or mechanical work, or labor, connected with or incident to one of the industries, plants, factories, lines, occupations or trades."

The City Manager presented his claim to the commission for compensation under the above mentioned state law. After the Commission had thoroughly considered details of the occupation, and the manner in which the injury was sustained, the claim was approved.

Subsequently litigation developed because it was contended that the injuries suffered by Moss were not sustained while he was engaged in a hazardous occupation, as defined by the above mentioned statute. It is interesting to observe that the higher Court refused to allow Moss compensation, and said:

"It cannot be contended that work of this character which requires the watching of the water gauge and pressing of the electric push button was 'manual or mechanical work or labor of a hazardous nature.' . . . It would be extending the plain language and intent of the Workmen's Compensation Law too far to say that work of this kind and character was of a hazardous nature or that it was manual or mechanical. We conclude that the respondent (Moss) was not engaged in manual or mechanical work or labor of a hazardous nature connected with or incident to one of a hazardous employment specified in the Workmen's Compensation Act, and that the award of the commission is vacated."

### When Fireman May Recover Insurance

While it is true that common employees and citizens may, under certain circumstances, recover damages for injuries, this rule is not applicable to municipal firemen because a city is not liable for negligent injuries effected while performing governmental duties, such as the operation of a Fire Department. For this reason firemen should be certain of protective measures such as enaction of valid pension or compensation laws, or issuance of insurance policies.

Generally speaking, the Courts strictly construe insurance contracts or policies in accordance with its legal meaning expressed therein. Therefore, it is advisable for all firemen, who hold insurance policies, to carefully read and understand the meaning of the various clauses. The protection of an insurance policy frequently varies considerably from the usual understanding or explanation given by the insurance company's representative.

In a leading case, 28 S. W. (2d) 1111, it was shown that a fireman held an insurance policy which contained a clause that provided that the beneficiary would be paid a stipulated amount if the insured died within ninety days from occurrence of an injury caused by "external, violent and accidental means." The policy further provided that if the fireman should not die as a result of the accident but was immediately totally disabled the beneficiary was to be paid a smaller amount at his death.

The fireman was injured while fighting a fire in which acids were exploding. The fireman inhaled fumes and died in the hospital several weeks later.

The insurance company refused to pay the full amount of the insurance on the contention that the injuries were not "immediate." In upholding this contention, the Court said:

"The facts show that under the ruling of the Supreme Court the injuries to deceased did not cause immediate, total disability which continued to his death. He helped clean up the rubbish after the fire was extinguished, then rode back to the fire station on a truck and performed his labors most of the time until sent to the hospital. . . . The disability was not immediate or total."

---

## Chief Herring Local "Handy Man"

A highly laudatory editorial appeared in the Murphysboro, Ill., newspaper praising Chief Albert Herring, who is described as the municipal "handy man."

Chief Herring has had his force reduced from six to two firemen, but his increased duties has not prevented him from accepting an appointment from Gov. L. L. Emerson as Unemployment Chairman of the district. He has compiled a most complete list of those without work, has furnished men to do city work and has paid these men with orders drawn on the Relief Fund.

As the editorial states, "Any little job of public service that nobody else wants to tackle is turned over to Albert and he gets it done at a minimum of cost. So it doesn't seem too much to pass out a little credit once in a while."

# The Volunteer Fire Department

By N. N. WOLPERT,
Assistant Editor, Fire Engineering

A Series of Articles on Volunteer Fire Department Administration and Operation

## Fire Department Tools Used by Volunteer Firemen

**This article, the twentieth of a series, describes a few of the common forms of tools that are frequently used by volunteer firemen:**

VARIOUS means of illumination are employed to light up a fire ground at night, ranging from the large carbide light to a small hand electric lamp employed by firemen or officers for inside work.

A carbide light that is commonly employed, gives in the neighborhood of 3,000 candle power illumination for six hours and provides satisfactory illumination for department operations on the outside of a moderate size building. One type of carbide light uses an aluminum reflector ten inches in diameter so attached that it can be set in any direction.

The hand electric lamp or searchlight uses two 2-volt cells as the source of electric current. The lights are made waterproof so that they will not be injured by the spray from streams.

### Handling Acids

Because of the highly corrosive action of sulphuric acid used in charging soda and acid fire extinguishers, it is a cumbersome problem to handle the heavy carboy. A small amount of acid spilled on the floor may result in considerable damage. Acid on clothing will immediately eat a part of the cloth, and if spattered on the hands or face, may result in serious burns to the body. For that reason, special acid pumps or as is more common, a carboy inclinator is employed.

The inclinator clamps over the wooden crate enclosing the carboy and makes it easy to handle the acid. The inclinator works with a cam motion and clamps on the crate like a skate clamp. It clutches the carboy firmly and permits easy and safe handling of the acid regardless of how much acid there may be in the carboy. The rockers enable one to tilt the carboy as much as desired.

### Use of Jacks

Jacks, in the fire service, find their chief use in lifting heavy objects such as cars and so forth, in case of accident. They are also sometimes employed in an emergency when a building is about to collapse or has collapsed. The jacks are invariably of the screw type. In using jacks for flat objects, it is always best to put a piece of wood, heavy cloth or other material between the head of the jack and the object to be lifted so that the head of the jack will not slip on a smooth surface.

Where a jack is used to lift a car, the brakes of the car must first be set to make sure that they will not shift when the jacks are operated.

The ordinary apparatus jacks are familiar to most firemen. These jacks are of a great variety of designs, some operating on the screw principle and others on the ratchet and lever plan.

One style is employed in which the lower end, just above the base plate, is pivoted so that the jack can be tipped over. It is used to lighten the load on the tires when apparatus is placed in the fire station. Upon the apparatus being called out, the truck is started in the usual manner. The traction remaining between the tires and the floor is sufficient to tip over the jacks and throw the truck load onto the tires.

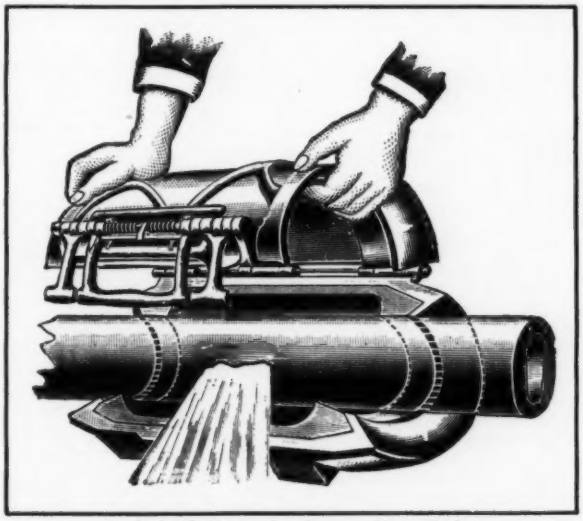
### Hose Jackets

A hose jacket is used to stop leaks in hose. Of all hose jackets, the most widely used and the most satisfactory is the Cooper hose jacket.

To use this jacket to cover a tear in the hose, the tear is so placed that the water will be shooting out away from the operator and as nearly horizontal as possible. Then the hose jacket is opened and one side slipped under the hose. When ready, the upper part of the jacket is snapped closed quickly, preferably with the foot. The jacket locks automatically.

If the tear in the hose were so placed that the water shot up vertically, there would be danger of the upper part of the jacket being knocked upward as it was being closed, and possibly injuring the operator.

The jacket may also be used as a universal coupling. For this use, the two couplings of the hose to be joined are



Method of Using the Cooper Hose Jacket

brought together within the jacket and the jacket snapped closed. As soon as pressure is applied inside the hose, the hose will become inflated and will properly seal the coupling.

Besides the Cooper hose jacket there is the screw type, the Neeley hose jacket and the leather hose jacket.

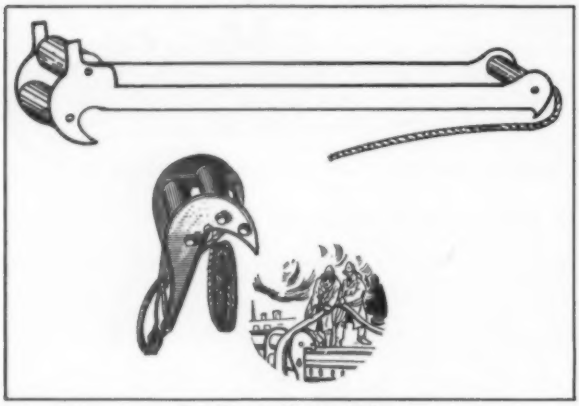
### Hose Testing Pump

Hose testing pumps are used where it is not desired to test hose with the aid of the pumper. In using the hose testing pump, one or more lines of hose are coupled tightly together and capped with a blank cap at one end. The other end of the line has a cap fitted with a nipple to which is attached the short piece of hose leading from the pump. The line of hose is first filled with water and then pressure is developed by forcing additional water into the line by means of the hand pump. If the hand pump is not fitted with a gauge showing the pressure in the line, it is necessary to use a cap on the far end of the layout tapped for a gauge, and to place a gauge on this fitting.

### Hose Roller

The hose roller is also known as the hose hoist. It is used for raising hose or ladders to the roof or upper floors of a building. It consists of a metal frame so curved that it will fit over a window sill or the edge of a roof. It contains two rollers over which hose or ropes may be drawn with little twisting. A rope is attached to secure the roller when hauling hose over it to the roof or other upper parts of a building. This rope, if possible, should be passed several times around a chimney or other substantial projection or

support and then securely fastened. If such support is not available, and if no other means is at hand to provide for securing the hose roller, a hole may be cut in the roof of the building and the rope tied around one of the roof rafters. There ae two types of hose rollers commonly employed in



**Two Forms of Hose Rollers**

The upper drawing shows the New York hose roller and the Bresnan roller is shown in the lower sketch. The insert shows the Bresnan roller in use.

Fire Department work, the Bresnan hose roller and the New York hose roller. They both operate the same.

The hose roller keeps the hose away from the cornice or other sharp edges and prevents cuts or injury to the hose jacket. After the roller is firmly secured, the hose is placed on the roller and is drawn upward. Should the hose run off the roller, it can easily be replaced by letting the hose coast back a few feet, at the same time guiding the hose back onto the roller.

Hose straps are used to carry hose lines up ladders and for securing hose lines to fire escapes and ladders. They are also used to assist in handling lines in other ways. With a hose strap it is an easy matter to secure a line of hose on a ladder or a fire escape.

## N. Y. Names Members of Fire Boards

The various boards of the New York Fire Department now consist of the following members, according to an official department announcement:

BOARD OF MERIT

Hon. Joseph M Hannon, Deputy Fire Commissioner and Chairman; Hon. Edward J. Kenny, Deputy Fire Commissioner, Brooklyn and Queens; John J McElligott, Chief of Department; Thomas F. Dougherty, Assistant Chief of Department; John Davin (2), Deputy Chief in Charge, Brooklyn and Queens; Thomas R. Langford, Deputy Chief, 12th Division; James W. Heffernan, Deputy Chief, 1st Division; John F. King (1), Deputy Chief, 7th Division; Elmer Mustard, Deputy Chief, 5th Division.

BOARD OF HAZARDOUS TRADES

Hon. Joseph M. Hannon, Deputy Fire Commissioner and Chairman; Hon. Edward J. Kenny, Deputy Fire Commissioner, Brooklyn and Queens; John J. McElligott, Chief of Department; Thomas F. Dougherty, Assistant Chief of Department; Patrick Walsh (1), Assistant Chief of Department; Peter C. Spence, Chief, Bureau of Fire Prevention; John F. Dixon, Assistant Inspector of Combustibles in Charge, Division of Combustibles, Bureau of Fire Prevention.

BOARD OF APPARATUS

Hon. Joseph M. Hannon, Deputy Fire Commissioner and Chairman; Hon. Edward J. Kenny, Deputy Fire Commissioner, Brooklyn and Queens; John J. McElligott, Chief of Department; Thomas F. Dougherty, Assistant Chief of Department; Hubert J. Treacy, Chief, Bureau of Repairs and Supplies; Richard J. Marshall, Deputy Chief in Charge, Division of Apparatus, Bureau of Repairs and Supplies.

## Dr. C. V. Bachelle Speaks to Volunteers

A joint meeting of the Twin Lakes, and Silver Lake, Wis., Fire Departments was held March 15, at Twin Lakes. Chief C. V. Bachelle of the Delavan Lake Fire Department, who is also President of the Walworth County Fire Officers' Association, spoke on the subject of "Development and Organization of the Rural Fire Department." Chief Bachelle showed how the problem should be studied and the equipment planned according to the needs of the community, how funds can be raised and how efficiency of the organization may be developed. He also showed photographs illustrating various points.

Chief H. A. Heyer of Darien, Wis., Secretary of the Walworth County Association, who spoke of the organization and plans of that body. Assistant Chief Duxtad, of Clinton, Wis., also spoke. The meeting was in charge of Chief Bushman of Twin Lakes, who was a most gracious host. After the meeting refreshments were served.

## San Diego Real Convention City

Chief Louis Almgren of San Diego, Cal., is going to have his fill of fire conventions for during the next few months; no less than eight fire associations, including the I. A. F. C., will hold annual conventions in his city. The full list of conventions follows:

California State Firemen's Association, July 25-7.
Ladies Auxiliary of the California State Firemen's Association, July 25.
International Association of Fire Fighters, August 1-5
Pacific Coast Association of Fire Chiefs, October 17
Ladies Auxiliary of the Pacific Coast Association of Fire Chief, October 17.
International Association of Fire Chiefs, October 18-21
Missouri Valley Association of Fire Chiefs, during I. A. F. C. Convention.
Southwestern Association of Fire Chiefs, during I. A. F. C. convention.

Chief Almgren has written to the Secretaries of these associations and has offered to assist in urging members of the respective groups to come to San Diego.

## Owensboro, Ky., Wins Grand Award

A list has been made public by the Chamber of Commerce of the United States, showing the winners in the 1931 National Inter-Chamber Fire Waste Contest which is sponsored jointly by that organization and the National Fire Waste Council. Owensboro, Ky., won the Grand Award. The list follows:

Class I cities, more than 500,000 population, Milwaukee.
Class II cities, 250,000 to 500,000, Portland, Ore.
Class III cities, 100,000 to 250,000, Youngstown, Ohio.
Class IV cities, 50,000 to 100,000, Lakewood, Ohio.
Class V cities, 2,000 to 50,000, Owensboro, Ky.
Class VI cities, under 20,000, Corvallis, Ore.

The Grand Award will be presented at the annual meeting of the United States Chamber in San Francisco in May, and the other prizes will be awarded.

A total of 344 cities competed in the 1931 contest and the average per capita fire loss was $2.33, the lowest in the history of the contest.

## A Tribute to the Volunteer Firemen

An interesting advertisement appeared in a San Francisco newspaper, which while stressing the age of a banking institution, also awakened some of the old glory of the volunteers. The advertisement read:

**The Volunteers Answer Their Last Alarm**

"On December 3, 1866, the municipal fire department took the place of San Francisco's old volunteer fire companies. In sixteen years of gallant service, the volunteers had saved scores of lives and millions of dollars in property. Their uniforms and engines had lent magnificence to dozens of parades. And many a free-for-all street battle had been engendered by their keen rivalries. Surely, a career so colorful deserved a glorious end. But as the day for disbanding drew near, no worthy blaze sprang up. At fourteen minutes past twelve, on the night of December 2, two companies answered a false alarm. And with this pathetic anti-climax, the volunteers passed into history."

CHARLES W. GEIGER.

**Norristown, Pa., voted** to purchase a 600-gallon Hale pumper.

**Pennville, Ind., has received** new Stutz apparatus ordered after a disastrous fire several months ago.

**A diving helmet and suit** have been added to the equipment of the Boston fireboat "Matthew J. Boyle."

**Fire apparatus has been purchased** by Helmetta, N. J., at a cost of $4,000. In addition the department has accepted the services of several Boy Scouts as first aid emergency workers at fires.

**The Fire Prevention Committee** of the San Francisco Junior Chamber of Commerce is urging the adoption of a five-year plan for replacing city fire apparatus. The program calls for replacing absolute equipment valued at $460,000 during the next five years. Mayor Rossi is considering the report.

# THE ROUND TABLE

## For Practical Discussion of Current Fire Department and Fire Management Problems

## SAFEGUARDING INSTITUTION INMATES AGAINST FIRE HAZARDS

HOSPITAL authorities, in their zeal to look out for their patients' medical needs, forget that they are in a large measure also responsible for the personal safety of the bedridden or incapacitated persons quartered in the building. Doctors, too, will make recommendations for the installation of some more modern medical equipment but will seldom, if ever, give a thought to the possibility of fire or the dangers that may result should a blaze develop.

It is, therefore, squarely up to the Fire Chief to take an active interest in such buildings within his territory. If violations exist, he should see that the proper authorities are notified, and in writing, so that if some serious fire results with attendant loss of life, he will have concrete proof that he was not asleep at his post.

Fire escapes, such as required for apartment houses, are of little value to bed-ridden patients. Such escapes should be designed to facilitate the removal of persons who cannot use their own means of locomotion.

The problem in full that is treated in this issue appears in the box on this page. In the box on the following page is the question that will be treated in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

### HERE IS THE PROBLEM

What means have you taken to protect asylums, homes and institutions within your corporate limits?

Do you train institution members or inmates in the use of fire appliances? How?

What suggestions have you for making such buildings a safer place for the persons living there?

### DISCUSSION OF THE QUESTION

Chiefs are generally aware of the importance of having hospitals and institutions properly protected against fire. Instructions are frequently given in the operation of first-aid fire appliances. The replies received follow:

**C. M. Johnson, Chief, Knoxville, Tenn.:** We have regular inspections of schools, hospitals and similar buildings to ascertain that everything is in good order: all observed fire hazards are corrected; fire extinguishers are placed throughout buildings; employees are instructed by firemen how to use extinguishers. They are also trained to notify the Fire Department at once, of any fire that occurs, regardless of how small the fire may be.

All hospitals, schools and children's homes of two or more stories should be equipped with tubular fire escapes. The installation of tubular escapes on hospitals to walk. If a fire should occur and it should become pulsory.

Ninety-five per cent of all hospital patients are unable to walk. If a fire should occur and it should become necessary to empty the hospital, it could be done with much greater rapidity and with little or no danger of injury to the patients, if the hospital were equipped with tubular type fire escapes. With other types of fire escapes it would be much slower, harder work for the fireman and extremely dangerous for the patients.

We succeeded in having one hospital and one home for children equipped with tubular escapes this year.

**Ray H. Hare, Chief, Yakima, Wash.:** We are fortunate in that hospitals are the only institutions we have where patients or inmates are housed. Due to the lack of proper ordinances very little has been done in the past towards making these places safer. Future occupancies of this kind will be made much safer because of the recent adoption of a new building code.

Members of the Fire Department instruct the nurses how to send in alarms, operate extinguishers, etc.

Every Fire Chief knows that there are many ways in which such buildings can be made safer to a certain degree, but in most cases he is without authority to bring about the desired results. Educating the public is too slow; too many lives will be sacrified before the lesson is completed. The quickest and surest way is for the legislative bodies of our municipalities to build up courage enough to adopt some of the suggestions and recommendations which have been made by the National Board of Fire Underwriters, National Fire Protection Association and others who are unceasingly working for, and teaching better methods of fire protection; make the suggestions a law and see to it that it it rigidly enforced.

**E. R. Newton, Fire Marshal, San Diego, Cal.:** We endeavor in a number of ways to protect our asylums, homes and institutions. Regular inspections are made to discover fire hazards and have them removed. Means of fighting fires are improved. For example, we succeeded in getting a twelve-inch water main laid to a large hospital where the supply was deficient. Good building ordinance provisions govern the construction of these places and most of our buildings are of a good class. It is only after a large disaster that much improvement can be secured. After a fire in a childrens home at Playa Del Rey in this state where some twenty lives were lost, every children's home in the city was rebuilt and as a result all buildings of this kind here are now in a safe condition. After the Cleveland Clinic fire we had no trouble in getting film vaults built in all places which did not have them.

Members and inmates of our institutions are given only elementary instructions in the use of appliances and equipment such as ordinary extinguisher operation, handling of small standpipe lines, etc. Emphasis is placed on the importance of calling the Fire Department immediately and instructions given in the best and quickest methods of doing this.

The most important part in the protection of these types of building is to have them properly constructed by having good building laws, properly enforced.

The second most important thing, I believe, is to

have a few indictments for murder against persons operating these places when disaster occurs from easily preventable causes, instead of treating them as heroes as is often done.

**F. J. Ostertag, Chief, Burlington, Iowa:** We have no asylums within our corporate limits. We do, however, inspect our local hospitals several times during the year and receive the hearty cooperation of the hospital authorities at all times. Our County Home lies outside of our city limits, but we make a yearly inspection, there, and send a copy of the recommendations to the County Board of Supervisors for consideration.

All nurses in our hospitals are given instructions in first aid fire appliances, same being done when extinguishers need recharging.

In order to make the institutions a safer place for the inmates, all buildings should be fireproof, equipped with sprinklers, standpipes and hose on all floors; have wide hallways, plenty of exits with fire escapes; have heating plants and X-ray films in separate buildings; there should be daily inspections of all buildings by the Superintendent and all fire hazards taken care of immediately.

**D. M. Hudson, Chief, Chelsea, Mass.:** We haven't accomplished very much in getting protective appliances installed in the public and private institutions in this city.

We have in Chelsea a marine, a naval, a soldiers' home, and a semi-private hospital. In all of these hospitals automatic sprinkler systems have been installed. The school and other public buildings, with one exception, rely on portable extinguishers for protection against fire. In one school basement sprinklers provide partial protection.

I have noticed, in newspaper stories of hospital fire disasters, that whatever instruction and training employees of such institutions had received in the use of fire appliances, all such training seemed of no avail, when the fire came. All of the instruction concerning their conduct if a fire occurred was evidently forgotten at the time of crisis.

We do not make any attempt to train employees of public institutions in the use of extinguishers. Any intelligent person ought to know how to employ the contents of a portable chemical extinguisher on a fire.

The only suggestion I make for safeguarding public and private buildings against fire is in recommending automatic sprinkler systems. A sprinkler system, if supervised gives the best fire protection that can be had.

**Charles J. Henry, Chief, Lexington, Ky.:** All institutions within our corporate limits are mostly fire traps, none of them fireproof resistance.

Weekly inspections are made of all institutions in this city and all attendants are taught the proper use of fire fighting equipment. Weekly fire drills are held at the asylum and most of the ladder company's men visit these buildings on their "off days" to better familiarize themselves with the exits, violent wards, and other information that will be beneficial to them in case of fire. A private fire alarm box is installed at this institution, to avoid delay in transmitting an alarm to us by phone.

Institution members are taught the proper use of all auxiliary appliances in the buildings but inmates are not included as we deem it advisable for the inmates to make use of their time in vacating the buildings, leaving the extinguishing of the fire to the attendants. Chief engineers are in charge of drills and whistles or sirens are used as a warning to the inmates.

I believe that every building used in the confining of human beings such as hospitals, asylums, homes and penitentiaries should be strictly of fire resisting material, and as an extra precaution, should be equipped with a complete sprinkler system.

**F. A. Northcutt, Chief, Covington, Ky.:** We have no asylums or children's homes in the city, but there are two homes for orphan children, not far outside of the city limits. We advocated and were successful in having fire hydrants placed around both of these buildings.

We have instructed the teachers and overseers of these homes, in fire prevention and also conduct fire drills. We have also placed a hose reel for one place and gave instructions in its use in case of fire.

In my opinion there should not be a single institution in any city, where a number of children, or aged persons or the sick or injured are housed, without panic bars on all exit doors, and the doors should swing outward; there should also be fire escapes on all such buildings.

**W. T. Miller, Chief, Petersburg, Va.:** We have no asylums in the corporate limits. We have one two miles out of the city limits.

I suggested about three years ago that the building in which the inmates were locked behind bars be protected by a sufficient sprinkler system. Last year part of the system was put in and I understand that the whole building will be equipped later.

I have trained the inmates to unhook fire escapes, connect hose and raise ladders.

I would suggest that all asylums in which inmates are behind bars be equipped with a sufficient sprinkler system from the cellar to the attic.

**Wm. J. Lutz, Chief, Wilmington, Del.:** In protecting our asylums, homes and institutions a general inspection is made of the buildings, fire appliances, exits, fire escapes, etc., at least once a month, in company with the superintendent of the building. Such recommendations as are made by the Fire Department are always complied with by the Board of Directors. Their cooperation with us in all cases has always been of the highest order.

All attendants are schooled in the use of fire appliances and in alarms.

To make these types of building a safer place for the people housed therein, I would suggest the removal of all hazards, instruct all inmates and attendants in the proper use of nearest exits and the need of immediately turning in an alarm. I would also suggest that all such places have the proper alarm signals installed, and the location and method of using this alarm be made known to all who are in the building.

We are pleased to state that these institutions in our city are given the proper consideration and such recommendations as are made by the Fire Marshal are complied with. This department responds to all homes, hospitals, etc., with full quota of fire companies at all times, four to six companies answering the first alarm. Service is also given to any institution in the rural district, upon their call, without any charge.

**James J. Sullivan, Greenwich, Conn.:** Within my district I have ten large schools which house about 5,000 children, and we have two hospitals and the town poor house. We give talks to the school children and to the inmates and members of the other institutions. Regular inspections are also made. The hospitals, schools, etc., are equipped with fire escapes and regular fire drills are given.

Very little training in the use of fire appliances is given to the attendants at these types of building for we have found it to be to our disadvantage, insofar as they try to battle the fire alone, and serious mishaps occur before they finally put through the alarm.

I do not believe general suggestions could be offered for the improvement of public buildings of this sort. Each building has its own special need for making it safe for the persons housed therein.

**Talmer Wise, Chief, Circleville, Ohio:** To protect asylums, homes, etc., within our corporate limits we have trained the occupants in the use of the fire extinguishers which have been placed on each floor. We have also instructed

## HERE IS THE PROBLEM FOR THE NEXT ISSUE

From experience in fighting fires, which would you prefer, a 35- or 40-gallon chemical tank on your apparatus or a booster tank?

What do you consider the advantage and disadvantage of each?

Do you find that chemical lines do better work than small lines from the booster tank, or vice versa?

them in the dangers of fire and the great need of safeguarding the building against fires, which subsequently results in safeguarding themselves.

I believe it an excellent plan to make these types of buildings as near fireproof as possible. Providing the building with plenty of exits and fire escapes, also aids in preventing disasters. A few other good provisions to protect those housed within these buildings are to avoid overcrowding, provide sprinkler systems for basements and heating system rooms, and last but not least, good housekeeping in all such institutions, that is keeping aisles and passageways clean and clear of all rubbish and furniture.

**C. R. Summers, Chief, Norman, Okla.:** The asylum is outside of our corporate limits, but they put through their calls to us and we answer all of them. They have their own water, water mains and hydrants.

We do not train the inmates in the use of fire appliances, but the attendants are trained by us and the state. The asylum has a fire drill once each week.

I could make no suggestion for the improvement of our asylums for our buildings are all of the fire-resistive type, and the state has done everything that they could to take care of the inmates in case of a fire.

**Owen C. Dunn, Chief, St. Paul, Minn.:** We have placed fire alarm boxes in the buildings and on the grounds of our institutions to aid in protecting the persons therein. We have also set soda and acid extinguishers throughout the building; isolated heating plants, kitchen and laundry and compelled them to have sufficient fire escapes. We have instructed the occupants in the use of fire extinguishers and have taught them how to call the Fire Department.

In my opinion a fire gong should be installed on each floor, doors should open out and those that must be kept locked should be equipped with a panic latch, and night watchmen should be on duty. All of these improvements should aid greatly in making the buildings a safer place for the persons living there.

**H. J. Callahan, Chief, Ft. Dodge, Iowa:** In our city, regulations are provided that all buildings used for the purpose of housing the sick, injured, aged, etc., be of fire resistive construction, and fire extinguishers or inside standpipes with hose be provided on each floor.

Uniformed men visit the institutions and instruct the nurses, attendants and janitors in the use of fire appliances.

Automatic sprinklers at least in the basement of all such buildings would be the best possible safeguard against fire. Auxiliary fire alarm boxes on each floor would also provide greater safety.

In this city such institutions are inspected by uniformed inspectors with the same regularity and thoroughness as any business property and orders and recommendations are followed up and enforced.

**Fred J. Washburn, Chief, Auburn, N. Y.:** At the orphans' home, in addition to the fire alarm signal box, there is a private alarm bell running to an adjacent fire station, installed to insure the safety of the occupants. Firemen make frequent inspection of the home, making sure the attendants can operate hand tanks and water pails. Fire drills are also held.

A fire alarm signal box and sprinkler have been installed at the Old Ladies Home and the fire escapes are inspected often.

Such buildings should be of fire resistive construction, plenty of exits, all hazardous parts of building sprinklered, and an efficient fire patrol maintained at night.

**Chris W. Noll, Chief, Poughkeepsie, N. Y.:** We have just one large hospital within the city limits. The employees and nurses are trained in fire drills. The hospital is inspected every week by a uniform paid firemen.

**Giles Dow, Chief, Stoughton, Wis.:** Our city hospital is the only building under the fire department jurisdiction. This building is protected by a standpipe and a reel of 100 feet of linen hose on each floor. We can thus get a pumper stream into any part of the building. Two and one half gallons chemical extinguishers are hung in convenient locations. Physicians and nurses have been instructed in their use. Our hospital is a remodeled school house, brick veneered, and is not particularly safe for the purpose. I know of no way in which it can be made safer, however, unless to entirely rebuild it.

**W. E. Kidney, Chief, DePere, Wis.:** We have fire drills once a month in all our schools. These alarms are sent in at different times, so that they are taken completely by surprise. This trains them to meet any emergency.

* * *

## ANSWERS TO PREVIOUS QUESTIONS

*The following is in answer to a previous question on the program followed to educate women in the danger resulting from benzine and naptha:*

**A. Cushnan, Second Officer, Hughenden, North Queensland, Australia:** In Australia we call gasoline, "benzine"; methylated spirits is also commonly used.

In our fire station we have a printed form and it is the duty of all firemen to educate women to appreciate the danger of benzine and methylated spirits, the danger of using a benzine heated smoothing iron, and a "primus stove" that uses methylated spirits which is common in houses in this part of the world.

It is not a very pleasant sight to see a person on fire, especially a woman.

If you see a person with her clothes on fire, make a dash to the rescue and remember that the person rendering aid should hold a rug, blanket, coat, bag, table cover, etc., if available, in front of him when approaching the burning person. The rescuer must possess self control and presence of mind. Women and children are the ones who generally have their clothing on fire.

Should the woman be erect, throw her down into a horizontal or lying-down position. Flames ascend, so that if the upright position is maintained the flames will quickly ascend and burn the body, neck and face. If the person is in a lying-down position, the flames have little to feed on and do not encircle the victim. Rolling or moving about the floor also helps to extinguish the flames. When a person lies still, the task of beating out the flames is best accomplished by enveloping the sufferer in a coat, blanket or similar article that is handy, leaving only the head exposed. The person is rolled from side to side. Obtain water as quickly as possible and have everything wet for although the flames are out, the partially burnt clothing retains heat. A smouldering spark may do additional damage.

Matters are made a thousand times worse by the victim rushing about and creating an air current. This increases the intensity of the flames.

It is probable that the victim will soon loose consciousness If you are alone with that person, turn her head to one side to facilitate breathing, leave her covered up, and render whatever first aid you can at the moment. Lose no time in removing the sufferer to a place of safety. Send in a fire alarm, if necessary, and obtain medical aid as soon possible. It is possible that medical aid will arrive before the fireman has completed his first aid work, but nevertheless it is the fireman's duty to know what to do when an emergency such as this occurs.

* * *

*The following replies were received in answer to a previous question on the methods employed to place a frozen hydrant back in operating condition and the equipment used for thawing hydrants:*

**W. M. Seeley, Chief, Middletown, N. Y.:** We are very seldom troubled with frozen hydrants. Only twice in the past ten years have we found this condition upon arriving at the scene of a fire. On the first occasion in attempting to turn the hydrant my men twisted the valve stem off. The Water Department was immediately notified and the hydrant was thawed out and repaired the next day. On the other occasion we used our thawing device and in a very few seconds the hydrant was ready for use. We have a Ross thawing device and have found it very satisfactory. It is used both by the Fire and Water Departments.

**Fred J. Washburn, Chief, Auburn, N. Y.:** We have not been troubled by frozen hydrants in many years.

The Water Department makes frequent inspections during cold weather to make sure hydrants are in serviceable condition. The thawing equipment consists of a gasoline heated steamer.

**Frank Ernenwein, Chief, Oneida, N. Y.:** Henry M. White, Superintendent of Water Department, has full charge of hydrants in our city. He has men going over them and keeps them in good condition. It has been years since we have had any frozen hydrants.

# Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

## Centrifugal Pumps

*To the Editor:*

Is a centrifugal pump and turbine pump basically the same in that they take water in the center of the impeller and discharge at the outer rim.

The question is asked on account of recent development of a pump which takes water at its rim and discharges at its rim, in a single stage. I believe it is called a turbine. Can this be correct?

B. R. F.

*Answer*: The centrifugal pump and the turbine pump are the same. The turbine pump is really one form of the centrifugal pump, the other form being the so-called volute type.

In either case, water is drawn through the center and discharged by means of the impeller at a port along the outer rim.

A pump which would take water at the rim and discharge it at the rim apparently would not be a true centrifugal pump, for the pressure created at the rim is dependent upon the centrifugal force and this in turn is dependent upon the impeller dimensions and the peripherical speed thereof. This speed being the same for all points along the rim, the pressure would be the same, and you would have no difference in the pressure between the intake and discharge to create a flow. The type of pump you may have in mind may be an adaptation of the rotary pump, such as is used in lubricating systems of internal combustion engines.

## Life Hazard First

*To the Editor:*

Will you kindly answer the following question?

If a woman, standing at a window, screams "fire" and an officer about 10 feet away from the house hears her, what should he do first?

L. S.

*Answer*: It is not stated whether this fire occurs during the daytime or at night. In any case, the first thing the officer should do is to arouse or warn all tenants within the building and take whatever action he can toward getting them safely to the street. In the meantime, he should direct any available person at hand to send in a box alarm.

At any fire the first thing to do is to take care of the life hazard; the extinguishment of the fire comes second.

## Danger From Fumigating Gas

*To the Editor*:

Would like to receive some information about (cyno) fumigation gas.

Does this HCN destroy the oxygen in a room?

Will this gas stay in pockets for some time after ventilation?

In case of a fire in a heavily charged building with HCN and the smoke extractor was put in operation, would there be danger to people in high adjoining buildings from the gas freed to the air?

G. E. R.

*Answer:* Your questions were submitted to C. L. Williams, Surgeon, United States Public Health Service, who is probably one of the best qualified men in the country for answering the question you raise. His answer is as follows:

"Hydrocyanic acid does not destroy oxygen in a room or any other fumigated space; it has, in fact, no effect on the oxygen in concentrations used for fumigation. Inflammable concentrations are 6% and higher; 2% is about the upper limit ever used for fumigation, and 1% the usaul upper limit.

"It has been variously reported that HCN gas will sometimes remain in pockets after ventilation. It is my experience that this occurs only in places where it should be obvious that ventilation is poor. In the sense, however, that one portion of a room may be found free of gas while in another part of the same room is a dangerous concentration of the gas, I am of the opinion that it does not occur. I think a fireman might count on HCN gas clearing almost as rapidly as smoke, but he must remember that it requires much less HCN to be dangerous than smoke.

"In regard to your last question, I am not sufficiently familiar with the operation of smoke extractors to answer definitely; however, I may say that HCN gas dissipates so rapidly in the open air that even the liberation of considerable volumes may take place without harmful effects. In considering the possible gassing of the inmates of a tall adjoining building, one would have to take into account the direction of the wind. If this blew the gas directly into the building, serious results might follow; if it blew away from the building, I feel sure that no harm would result."

## Nozzle Discharge Formula

*To the Editor*:

Would you please show me how you derive the formula for discharge:

$$Q = 29.7Xd^2 \sqrt{p.}$$

B. E. W.

*Answer:* The derivation of the formula you refer to is as follows:

The theoretical velocity of discharge is $V = \sqrt{2gh}$, where "h" is the head in feet creating the pressure, and "g," the acceleration due to the force of gravity. It is best to get "h" in terms of pounds instead of feet, for practically all gauges in everyday service record in pounds instead of feet. If h = head in feet, $\frac{h}{2.304} = p$, the pressure in pounds. By transposing the denominator in the above equation, $h = 2.304\ p$. Using this value of "h" in the formula for the theoretical velocity, the equation is $v = \sqrt{2x\ 32\ x\ 2.304\ p} = 12.14 \sqrt{p}$ feet per second. The discharge $Q = Av = A \times 12.14 \sqrt{p}$. This gives the discharge in cubic feet per second, where the area is in square feet and the velocity in feet per second. To get the discharge in gallons per minute it is either necessary to have the velocity in feet per minute and area in square feet and multiply the answer by 7.481, the number of gallons in a cubic foot, or else have the area in square inches and velocity in inches per minute and divide the answer by 231, the number of cubic inches in a gallon. If the measurements were in feet, the formula would be

$$Q \text{ (in gals. per min.)} = \frac{.7854d^2}{144} \times 60 \times 12.14 \sqrt{p \times 7.481},$$

where "d" is the diameter in inches. The diameter squared multiplied by .7854 gives the area of the nozzle. In the above, if the diameter is in inches, then the area will be in square inches by 144, the number of square inches in a square foot, to secure the area of the nozzle in square feet. This explains the figure 144 in the equation. The velocity secured with the formula is in feet per second and must be multiplied by 60 to get the velocity in feet per minute, as shown in the equation. The 7.481 is the number of gallons in a cubic foot and changes the value of Q from cubic feet per minute to gallons per minute. This equation for Q solves down to $Q = 29.72d^2 \sqrt{p}$, which is a rough solution only—not entirely correct—and is intended to show the process of derivation. The value, computed using 2.304 as

# *Claims* Indian Fire Pumps Save Water Damage

## READ WHAT VIRGINIA CHIEF SAYS:

**ORANGE VOLUNTEER FIRE COMPANY**
**ORANGE, VIRGINIA**

**OFFICE OF THE CHIEF**

D. B. Smith & Co.
Utica, N. Y.

Gentlemen:

I now have in service, two of your INDIAN FIRE PUMPS and find them the best thing we have ever had for fighting brush and grass fires, of which we had plenty the past summer. We also find them extremely handy for cleaning down spot fires after a fire in a building. They *save a lot of water damage* and are much more convenient to handle than cleaning up with a hose.

I gave a talk at a Firemen's Banquet at Warrenton, Virginia, and told the boys about the INDIAN FIRE PUMP and advised the Chiefs to get in line on them. We would like your new prices.

Yours very truly,

E. H. ROUSE, Chief.

*The Indian in Action*

*This letter is an example of the hundreds in our files from fire chiefs, forest rangers, fire wardens and private citizens. All of these letters were unsolicited and enthusiastically endorse the INDIAN FIRE PUMP.*

COMBINATION BRASS NOZZLE FOR 50 FOOT STREAM OR LONG COARSE SPRAY
NEW COMBINATION HANDLE FOR CARRYING TANK AND FOR HOLDING PUMP
Pat. applied for
STRONG AND DURABLE
TANK MAY BE CARRIED IN THE HAND OR ON THE BACK
EXTRA HEAVY TANK IS CURVED IN SHAPE TO FIT BACK SNUG AND FIRM
ALL TANK JOINTS LOCKED AND SOLDERED
BUILT STRONG
INDIAN
FIRE PUMP

*Smith Indian Fire Pump*

THE simplicity of operation and portability of Smith Indian Fire Pumps have won for them widespread approval among Fire Chiefs. That is why there are thousands in use in rural and city departments all over the country. These compact, sturdy extinguishers occupy small space and since they use only clear water require no attention. The Indian never fails to work. The heavy, solid brass pump consists of two seamless brass cylinders one working back and forth inside the other. There are no leather valves or packings to dry up or wear out. Pump throws unbroken, powerful 50 ft. stream or long coarse spray. Curved 5 or 7 gallon tank snugly fits carrier's back and is built to withstand hard wear. These and other advantages are described in literature we will send anyone returning the coupon.

D. B. SMITH & CO.
409 Main St.
Utica, N. Y.

Please send me more information about your fire extinguishers.

Name .....

Address .....

City ..... State .....

**Truck Carrying Rack**

A carrying rack of unbreakable, malleable iron which bolts to running board or floor of truck makes the outfit complete. Straps of heavy, wide webbing hold pump in place. Heavy, black japanned buckle may be instantly locked or unfastened.

# THE SMITH INDIAN FIRE PUMP

*"Tank is Curved to Snugly Fit the Back and Pump Has No Leather Plunger to Give Trouble"*

**D. B. SMITH & COMPANY, 409 Main St., Utica, N. Y.**

Pac. Coast Agts.—Fire Protection Eng. Co., 369 Pine St., San Francisco, Calif.

**Strapped on Back**

Ready for action. Notice freedom of arms. Operator can direct strong stream in any direction.

## Successful Resuscitations

## With H-H INHALATORS!

Inhalation of petroleum vapors, gas, smoke, carbon monoxide and other poisonous fumes causes oxygen deficiencies in the lungs. The chances of successful resuscitation are greatly enhanced when the H-H INHALATOR is used as an adjunct to the prone pressure method of artificial respiration. Acquaint yourself with this well-known and successfully used safety appliance today.

WRITE FOR COPIES OF BULLETIN NO. 80

*Mine Safety Appliances Co.*

*Braddock, Thomas and Meade Sts., Pittsburgh, Pa.*

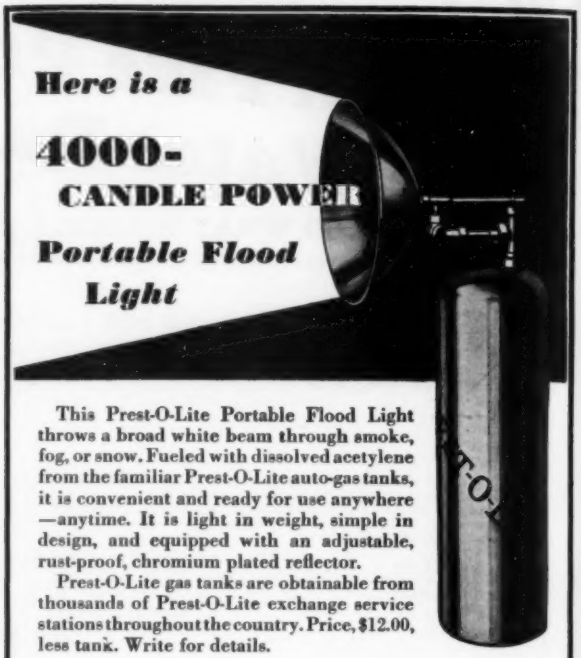
"EVERYTHING FOR MINE AND INDUSTRIAL SAFETY"

*Here is a*

**4000-**

**CANDLE POWER**

***Portable Flood Light***



This Prest-O-Lite Portable Flood Light throws a broad white beam through smoke, fog, or snow. Fueled with dissolved acetylene from the familiar Prest-O-Lite auto-gas tanks, it is convenient and ready for use anywhere —anytime. It is light in weight, simple in design, and equipped with an adjustable, rust-proof, chromium plated reflector.

Prest-O-Lite gas tanks are obtainable from thousands of Prest-O-Lite exchange service stations throughout the country. Price, $12.00, less tank. Write for details.

**THE LINDE AIR PRODUCTS COMPANY**

*Appliance and Small Tank Division*

Unit of Union Carbide and Carbon Corporation

UCC

General Office: New York—Sales Offices in Principal Cities

$67.50
F.O.B.
Columbus, Ohio

## Seagrave Twin-Blast Siren

An unusual signal. Exceptionally loud, distinctive and penetrating. Free rolling. Uses very little current. A test will convince you!

The SEAGRAVE CORP., Columbus, Ohio

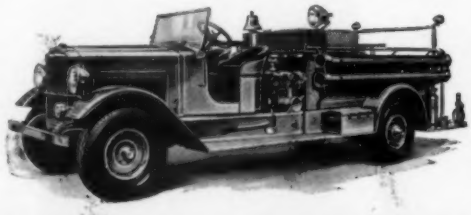
*Send Coupon for Demonstration*

At no expense or obligation to me, I would like to have demonstrated the Seagrave Twin-Blast Siren.

NAME .....

TITLE .....

CITY .....[FE4]



# MAXIM

## FIRE APPARATUS

is the sort of equipment that any chief should be proud to add to his department. In actual service it has proven that it pays to deal with a company that takes particular pride in every job they turn out.

Every practical type of fire fighting machine is built at the Maxim plant. Whether you plan buying within the next few months—or the next few years—we urge you to send us your requirements and let us help you select the right type of equipment to fill your needs.

**MAXIM MOTOR COMPANY**

MIDDLEBORO, MASS.

*Metropolitan Sales Agents:*

The Woodhouse Manufacturing Co., 156 Chambers Street, New York

the height of a column of water producing 1 pound pressure per square inch, is $Q = 29.83d^2\sqrt{p}$. This value, however, must be multiplied by the constant, c, explained before, and which depends upon the size of the nozzle. An average value of the constant may be used for ordinary purposes. This average is c = .9956. Using this value, the formula for discharge in gallons per minute is $Q = 29.7d^2\sqrt{p}$, where Q is in gallons per minute; d is the diameter in inches; p is in pounds pressure per square inch.

Were the measurements for area of nozzle and velocity of flow in the above solution in inches, it would be more advisable to convert them into feet at the start and solve as shown than to carry out the work in inch units and finally divide by the conversion factor, 231, for if the measurements were at all large, they would produce unwieldy figures and make the way toward error easy.

## FIVE BLOCKS OF HOMES RAZED BY FIRE IN PENN'S GROVE, N. J.

**Aid Rushed from Wilmington, Del., and Towns Within 30-Mile Radius—Special Train Carried Relief Workers from Factory**

MORE than five hundred persons were made homeless and four city blocks were razed when a fire which started near the waterfront of Penn's Grove, N. J., was fanned by a sixty-mile an hour wind to conflagration proportions.

Investigations made shortly after the fire support the theory that the fire started from a defective flue in a house next to Barber's Wharf.

Fire was discovered by the Captain of a ferry boat plying the Delaware River. He sounded the siren on his boat to attract attention. When firemen arrived at the fire, the house and the wharf were ablaze.

**Fire That Swept Through Penn's Grove, N. J.**

A strong wind helped spread the fire from house to house. Other buildings were slightly damaged by flying brands.

All male residents were pressed into service as volunteer firemen. It soon became evident that lack of water and proper fire-fighting equipment was of material aid to the fire, and calls for help were sent to nearby cities and towns within a thirty-mile radius. Companies responded from Camden, Deepwater, Gibbstown, Paulsboro, Woodbury, Bridgeport, Pedricktown, Woodstown, Bridgeton, Swedesboro, Salem, Penns Neck, Lower Penns Neck, Clarksboro, Mt. Royal and Pennville, N. J., and from Wilmington, Del.

Wilmington firemen under command of Asst. Chief Thomas Feeley, crossed the Delaware River on a special ferry. The pumpers were stationed on the wharf to pump water to the fire-stricken area. Later the work of Chief Feeley was taken over by Chief William J. Lutz, in charge of the Wilmington Fire Department. Dr. J. W. Bastian, surgeon of the Wilmington Fire Department, treated a large number of firemen for smoke-affected eyes.

It was not until companies arrived from Wilmington, Del., and Camden, N. J., that the fire was brought under control.

A special train was chartered by the Du Pont interests to transport three hundred employees from the Deepwater plant to Penn's Grove to aid in rescue work. Most of the men from the Du Pont plant were put to work hauling household goods that had been saved, to buildings offered for storage purposes.

The town is on the direct air line to Washington. Pilots reported that the heat was so intense at 1,000 feet elevation that mail planes and passenger planes were forced to make a circuit around the town.

At 10:30 p.m., Penn's Grove was placed under martial law by a company of the National Guard who were assisted by the state police. The soldiers brought with them 1,000 blankets, 500 cots and cooking equipment to aid the homeless. Although buildings of the Masons, Elks and other fraternal organizations were thrown open for the homeless, few were quartered there, as temporary shelter was found with friends and neighbors.

The community has a population of 6,000. During the World War, the population increased to 25,000 because of the smokeless powder plants. The fire loss was placed at $500,000 and most of the loss is covered by individual insurance.

The cover illustration is a view of the fire taken from an airplane.

## WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designating in the headings. These figures, compiled from telegraphic reports are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

| Month Ending March 31 | Loss in Thousands of Dollars |
|---|---|
| TAUNTON, MASS.—Plant of Brownell & Burt, Inc., damaged | 25 |
| CHICAGO, ILL.—Whse. of Underwood & Blankenship | 80 |
| SO. HEMPSTEAD, N. Y.—Firehouse and community hall destroyed | 25 |
| CLEVELAND, OHIO—Property of Sharwell Clothing Co. | 25 |
| TERRE HAUTE, IND.—Store of James Wolfe damaged | 80 |
| MT. PLEASANT, IOWA—Seely Memorial High School destroyed | 125 |
| SPRINGFIELD, MASS.—Springfield Nat'l Bank bldg. adj. property | 350 |
| GARDNER, MASS.—Property of Clifford Shoe Co. | 40 |
| WARE, MASS.—Junior High School | 65 |
| TUXEDO, N. Y.—Dwelling of Col. F. B. Keech destroyed | 160 |
| LINCOLN, ILL.—Several business establishments in Gresiheim bldg. | 175 |
| SEWAREN, N. J.—Summer home of F. S. Moffett of Newark | 25 |
| ANNONA, TEX.—Federal and state bonded warehouses destroyed | 65 |
| SMITHVILLE, TENN.—Smithville Laundry Co., adj. property | 35 |
| GRETNA, LA.—Plant of Davison-Pick Fertilizers, Inc. | 175 |
| WEYMOUTH, MASS.—Crawford Machine Works, adj. dwelling | 45 |
| PENNSGROVE, N. J.—Business and residential property | 400 |
| SAUSALITO, CALIF.—Shipbuilding plant of C. L. Arques | 25 |
| DOERUN, GA.—School building destroyed | 25 |
| BUFFALO, N. Y.—Business and apt. bldg. owned by Buffalo Cement Co. | 35 |
| SUFFOLK, VA.—Store of Ballard & Smith damaged | 25 |
| ST. PETERSBURG, FLA.—Plant of All States Lumber Co., destroyed | 25 |
| KINSTON, N. C.—Queen Street M. E. Church annex, adj. property | 45 |
| HAMILTON, ONT.—Calhoun Hat store damaged | 45 |
| STRASBURG, N. DAK.—Strasburg Theatre and several stores | 35 |
| RUTLAND, VT.—Dept. store of Chas. Sterns & Co. | 25 |
| APPLETON, WIS.—Factory of Appleton Shirt & Pants Co. | 50 |
| DULUTH, MINN.—Store and apt. bldg., 2301 W. Superior St. | 25 |
| SYRACUSE, N. Y.—Store and apt. bldg., 2410-18 Court St. | 40 |
| SHERBURNE, N. Y.—Chenango County model barn destroyed | 25 |
| SAULT STE. MARIE, ONT.—Beck block damaged | 65 |
| EDMORE, N. DAK.—Several business establishments | 30 |
| WASHINGTON, IND.—Ben Allen Co. store damaged | 45 |
| DELAVAN, WIS.—Barn on W. J. Cummings farm destroyed | 45 |
| GREENWOOD, MISS.—Residence of Allen Hooks, Grand Boulevard | 80 |
| KEENE, N. H.—Lane block damaged | 25 |
| NEW CASTLE, PA.—Capitol Theatre destroyed | 65 |
| PHILADELPHIA, PA.—Property of Philadelphia Toilet & Laundry Co. | 400 |
| BARSTOW, ILL.—Roundhouse of Burlington R. R. destroyed | 40 |
| KELLNERSVILLE, WIS.—Store of Michael Stueber, adj. property | 25 |
| BLANCHESTER, OHIO—Plant of the Brown Publishing Co. | 80 |
| MORRIS PLAINS, N. J.—Yards of Morris Plains Coal & Lumber. Co. | 25 |
| McKEESPORT, PA.—Business and apartment property damaged | 45 |
| BEECHHURST, N. Y.—Residence of Jacob Ross destroyed | 45 |
| PIERCE, NEB.—Mill and elevator of S. F. Gilman estate | 30 |
| MIAMI BEACH, FLA.—Eight stores in business block | 125 |
| AVON, CONN.—Store of Sable & Kopp destroyed | 35 |
| LIBERTY CORNER, N. J.—Bonnie Brae Home for Boys school | 50 |
| CHARLOTTE, N. C.—Store of Montgomery Ward & Co. | 25 |
| SALEM, MASS.—Several business establishments, Congress St. | 50 |
| BINGHAMTON, N. Y.—Property of Binghamton Auto Wrecking Co. | 25 |
| ADNA, WASH.—Ocean Beach highway bridge owned by state | 50 |
| BLANKS, LA.—Yards of A. N. Smith Lumber Co. | 125 |
| MONTCLAIR, N. J.—Hardware store of Ernest Weiler | 45 |
| PORTSMOUTH, OHIO—Weber Shoe store, adj. property | 160 |
| ROCHESTER, N. Y.—Whse. of Sergeant Motor Co. destroyed | 25 |
| NATRONA HEIGHTS, PA.—Miller store, Freeport Road | 25 |
| NAPA, CALIF.—Property occupied by Winship Board Dept. store | 45 |

CHAMPAIGN, ILL.—University Christian Church destroyed..... 125
HATTIESBURG, MISS.—Shops of Enterprise Machine & Foundry Co. ..... 30
ALLIANCE, NEB.—Grain elevator of Geo. Neuswanger destroyed.. 25
CAMP MEEKER, CALIF.—Northwestern Pacific station, adj. property ..... 25
BROCKTON, MASS.—Majestic Theatre destroyed..... 30
ST. ANDREWS, N. B.—The Dominion Biological Station..... 75
PEEKSKILL, N. Y.—Penelope Park destroyed..... 65
KANSAS CITY, MO.—Shakelford Wall Paper Co., adj. property... 80
WOLFEBORO, N. H.—Property of W. S. Brophy of Lynn, Mass... 25
DOYLESTOWN, PA.—Factory of Derk Mfg. Co., damaged..... 125
BEULAH, MICH.—Several business establishments..... 30
INDIAN ROCKS, FLA.—Packing plant of H. D. Ulmer..... 60
ALTUS, OKLA.—Grocery plant of Carrol, Brough, Robinson & Humphrey ..... 80
FAWLING, N. Y.—Three business buildings destroyed..... 160
NEW HYDE PARK, N. Y.—Plant of Jericho Plumbing Supply Co... 125
HARTFORD, CONN.—Whse. of Wise, Smith & Co..... 50
BLOOMINGTON, ILL.—Jefferson school destroyed..... 125
VINTON, IOWA—Palace Theatre destroyed ..... 35
PAULS VALLEY, OKLA.—Business property damaged ..... 80
DENISON, IOWA—Nelson Hardware store, adj. property..... 25
VAN WERT, OHIO—Plant of Stoops Canning Co. damaged..... 60
LA GRANGE, ILL.—Garage of Buchholz Bros. destroyed..... 80
DAYTON, OHIO—Quartermasters' bldg., Nat'l Soldiers Home..... 400
ALLENTOWN, PA.—Queen City Silk Mill destroyed ..... 65
NEWBURYPORT, MASS.—Store of M. Goldsmith Bros. damaged. 25
BLACKEY, KY.—Stuart-Robinson school destroyed ..... 50
FOX VALLEY, SASK.—Several business establishments..... 50
DAVIS, S. DAK.—Business and residential property ..... 65
DUNVILLE, ONT.—Business block destroyed ..... 80
BECKLEY, W. VA.—Daniel and Stanley buildings ..... 80
HARVEY, ILL.—Property at 185-87 E. 152nd St. destroyed..... 30
BLOOMINGTON, ILL.—Holy Trinity Catholic Church destroyed... 275
WHEELING, W. VA.—Auto Sales Co. & 100 Autos..... 185
WHEELING, W. VA.—Wheeling Coal Co. mine tipple ..... 60
HOMESTEAD, PA.—Mary Magdalene Catholic Church ..... 680
NEW LONDON, CONN.—Mohican Hotel annex destroyed ..... 140
BOSTON, MASS.—Floating Power plt. in Charles River ..... 85
CHIPMAN, N. B., CAN.—Canadian Nat'l. Rwy. coaling plt..... 35
PEMBROKE, N. H.—Pleasant View Inn destroyed ..... 35
CLARKSDALE, MISS.—County home of Mrs. W. H. Stovall..... 30
PEEKSKILL, N. Y.—Garage and apartment property ..... 160
SAN FRANCISCO, CALIF.—Property occupied by Commission Box Co. ..... 40
WASHINGTON, IOWA—Congress Hotel, adj. property ..... 25
WINSTON-SALEM, N. C.—B & O furniture store, adj. bldg..... 30
WYNARD, SASK.—Wayne Hotel destroyed ..... 25
OLD BLUFORD, ILL.—Post office, theatre and several stores..... 30
PETOSKEY, MICH.—Cleaning plant and laundry of Floyd Potts... 25
DAKOTA CITY, NEB.—Garage, fifteen cars and four trucks..... 30
BLOOMINGTON, ILL.—Bon-Go dance pavilion destroyed ..... 40
CORDELE, GA.—Store of Perlis & Sons destroyed ..... 25
CUMBERLAND, MD.—Green St. Junior High school destroyed..... 165
OAKLAND CITY, IND.—Levi department store destroyed ..... 40
TILDEN, WIS.—Feed mill of Alter Bros. destroyed..... 25
ISLAND PARK, N. Y.—Tappe's Hotel, owned by Frank Barberi... 25
COLUMBUS, OHIO—Lyceum Theatre destroyed ..... 40
RUSSELL, KY.—Regent Theatre, Carmen bldg., adj. property..... 80
MURRAY, KY.—Lynn Grove high school, 8 mi. west..... 45
JACKSON, MISS.—Property of Capital City Auto Co..... 80
UNION HILL, N. Y.—Plant of Union Hill Canning Co. destroyed.. 45
CENTRAL BRIDGE, N. Y.—Four dwellings destroyed..... 50
WESTFIELD, MASS.—Plant of Westfield Clay Products Co..... 25
LINCOLN, ILL.—Several business bldgs. destroyed..... 200
VICCO, KY.—Mazer department store, adj. property..... 50
MARBLEHEAD, MASS.—Tedesco Country Club at Phillips Beach. 80
NORTHFORK, W. VA.—Pumping plant of Northfork Water Co.... 25
TACOMA, WASH.—Mecca restaurant, adj. stores ..... 30
MEMPHIS, TENN.—Gallina bldg. destroyed ..... 65
PIERRE, S. DAK.—Grand Theatre destroyed ..... 25
SEWICKLEY HEIGHTS, PA.—Garage and six cars on Darlington estate ..... 25
SUPERIOR, ARIZ.—Business property owned by Geo. Lobb..... 80
MESA, ARIZ.—Mill of Independent Cotton & Oil Co..... 65
PALO ALTO, CALIF.—Larkin Hotel and adj. property..... 80
LULING, LA. Store of Luling Trading Co..... 30
BLACKWELL, OKLA.—Hangar at municipal airport and 9 planes.. 80
ATLANTIC, IOWA—Cass County Courthouse destroyed ..... 80
FITCHBURG, MASS.—Property of Oliver Furniture Co..... 65
BIRMINGHAM, ALA.—Dwelling of W. H. Kettig, Niazuma Ave... 60
ST. LOUIS, MO.—City Foundry Co., damaged ..... 50
BERWICK, PA.—Y. M. C. A. building damaged ..... 25
HARRISVILLE, MICH.—Store of Yokey Bros. destroyed ..... 40
QUINCEY, FLA.—Lumber yard damaged ..... 80
PASSAIC, N. J.—Bldg. of Zaritsky Furniture Co., adj. property.... 150
OAKLAND, CALIF.—Plant of American Bag Co. damaged ..... 25
ST. LOUIS, MO.—Plant of City Foundry Co. damaged ..... 50
OAK RIDGE, MO.—School building destroyed ..... 25
WARRENTON, VA.—Barn and stock on Alwington farm destroyed 25
SMYRNA, TENN.—School building destroyed ..... 35
GRUNDY, W. VA.—Several business establishments destroyed ..... 80
CLEVELAND, OHIO—Century Power bldg. destroyed ..... 85
CARIBOU, ME.—Hackett block destroyed ..... 80
WEBB CITY, MO.—Blake Theatre destroyed ..... 50
ELMIRA, N. Y.—Rorick's Glen Theatre ..... 65
SMITHFIELD, N. C.—Banner warehouse, adj. property ..... 25
TOLEDO, OHIO—Candy factory of Meinert Co. damaged..... 25
CAMBRIDGE, MASS.—Cambridge City Building, Central Square.. 45
HERKIMER, N. Y.—Tenement, storage garage, two dwellings..... 100
LINDEN, N. J.—Tugboat of Chas. Shutte Towing Co..... 45
PULASKI, TENN.—Clubhouse at Milky Way Farm destroyed..... 45
GEORGETOWN, S. C.—Property occupied by Fogel Dept. store.... 75
DUBLIN, GA.—Grain elevator of R. L. Moore destroyed ..... 25
GODEFFROY, N. Y.—Dwelling of Max Resnick destroyed ..... 25
BRIDGTON, ME.—Gallinari restaurant, adj. property ..... 45
E. CHICAGO, IND.—Three tenements on West Chicago Ave..... 80
SEATTLE, WASH.—Property of Washington Iron Works ..... 100
AULANDER, N. C.—High school building destroyed ..... 30
EUREKA SPRINGS, ARK.—Hotel, two churches and dwellings.... 25
LONDON, ONT.—Flour mill of Dexter & Sons destroyed ..... 100
ST. THOMAS, ONT.—Woolworth store, adjacent property ..... 100
PITTSFIELD, MASS.—Property of Mrs. W. L. Paddock, East St... 25
AMBRIDGE, PA.—Residence of N. Kostin, adj. property..... 25
GREENVILLE, PA.—Plant of Greenville Steel Car Co..... 40
CLARKS HILL, IND.—School building destroyed ..... 65
MAYVILLE, MICH.—School property destroyed ..... 60
HENDERSON, N. C.—Main bldg. of Henderson Institute..... 25
BALTIMORE, MD.—Residence of W. B. Swindell, Roland Ave..... 25
PULASKI, VA.—Plant of Pulaski Hardwood Flooring Corp. ..... 60
NIAGARA FALLS, ONT.—Dwelling of Edward Caffery, Culp St.... 25
WOODLAKE, CALIF.—Packing house of B. G. Rooke destroyed.... 100
NORWICH, N. Y.—Distesano block and Smalley Theatre ..... 125
GREENHURST, ME.—Barn on farm of S. A. Coleman destroyed.. 25
APALACHIN, N. Y.—Five buildings destroyed, others damaged.... 25
MONTGOMERY, ALA.—Factory of Dixie Overall Co. ..... 35
TUSKEGEE, ALA.—Plant of East Alabama Lumber Co. ..... 45
BUCKEYE, ARIZ.—Property of Western Cotton Co. destroyed..... 25
LONGVIEW, TEX.—Balzell garage destroyed ..... 40
TYRONE, PA.—McCrory business block damaged ..... 60
PROVIDENCE, R. I. Roger Williams Baptist Church ..... 25
WALES, MASS.—Post office and Thompson store destroyed ..... 25
ALVIN, ILL.—Public school bldg. destroyed ..... 25
JELLICO, TENN.—Palace theatre, adj. property ..... 25
MIDDLEBOTO, KY.—Union Tanning Co. plant damaged ..... 35
MELLETTE, S. DAK.—Central Hotel, adj. business property ..... 45
ROCK HILL, S. CAR.—3 bldgs. on Wintrop College Farm..... 40
MEMPHIS, TENN.—Two storage sheds of E. L. Bruce Lumber Co. 125
BARNESBORO, PA.—Friedman dept. store, adj. property ..... 100
GLASGOW, KY.—Business and apartment property ..... 40
BROOKLYN, N. Y.—Pier of N. Y. Dock Co. damaged ..... 50
CURWENVILLE, PA.—Elk Tanning Co. plant destroyed ..... 30
OAKLAND, CALIF.—Plant of Davis Stamp Mfg. Co. ..... 45
STUART, OKLA.—Post office and other business property ..... 25
BROOKLINE, N. H.—Dwelling and barn on Edgewood Dairy Farm 40
LYNN, MASS.—Plant of Atlantic Building Wrecking Co. ..... 45
BLACKSTONE, MASS.—St. Paul's Catholic Church destroyed .... 160
SALEM, ORE.—Directors dept. store, adj. bldg..... 125
DURHAM, N. C.—Store of Pritchard-Bright damaged ..... 30
ROY, WASH.—Business block destroyed ..... 45
YARMOUTH, N. S.—Business district damaged ..... 45
PORT HURON, MICH.—Clothing store of L. Higer & Son..... 65
AMHERST, N. S.—First Baptist Church damaged ..... 65
SCHENECTADY, N. Y.—Clubhouse of Iroquois Golf Club ..... 35
CABOOL, MO.—Store of Pettigraw Hardware Co. destroyed..... 25
HAZLETON, PA.—Business property owned by Loughran estate... 50
ERIE, PA.—Star Clothing Company store destroyed ..... 65
HUSSAR, ALTA.—Six buildings destroyed ..... 80
GAFFNEY, S. C.—Store of Carroll & Byers, Inc., damaged ..... 25
WESLEYVILLE, PA.—Property owned by Helen E. Chaffee..... 30
YARMOUTH, N. S.—John Street business property ..... 30
ITHACA, N. Y.—Pritchard and Puritan stores damaged ..... 80

## False Economy and Fire Departments

(*Continued from page* 147)

To abolish this would be to take away the only real privilege that the fireman has ever had which permitted his normal association with his family. While workers in other lines were working eight-hour days and getting paid for overtime, the fireman works a seven-day week with nights thrown in, and has only an occasional day off to let the children see who provides their upkeep.

The day off is subject to withdrawal in the event of a serious fire and even today with the two-platoon system, the fireman can expect to be called back for duty if an extra alarm comes in or one of his comrades reports sick.

Surely city executives are practicing false economy when they risk Fire Department efficiency for the sake of imposing working conditions that are out of place in our modern humanitarian age. It is probably true that the two-platoon system in practice takes a few more men than the old perpetual system but it represents the difference between a Fire Department of stale discontented men and an organization of alert, happy men who are energetic and ready when the test comes.

Looking at the situation from an optimistic angle, there is no better time than the present to buy needed equipment and apparatus. Prices are favorable and purchase would be in compliance with the government's urge that business be promoted through the spending of money which would make for increased employment.

Fire Chiefs find it incumbent upon them to urge municipal authorities to keep things up, and if possible, to improve. They must do everything to prevent any kind of curtailment.

## Chief Charles W. Ringer Suspended

Upon the action of the Minneapolis Fire Commission, Chief Charles W. Ringer, head of the Fire Department, was suspended ninety days as a "disciplinary" measure. Previously the Council had attempted to remove Chief Ringer and seven other veteran firemen from the payroll.

It was charged that Chief Ringer by refusing to resign, "had challenged the authority and power of the City Council in such a manner as to bring undue criticism and condemnation on committee members and other councilmen."

# BRAXMAR BADGES

*Standard for Over Fifty Years*

*Here is one of the many fine badges illustrated in our new catalog.*

## DO YOURSELF A BIG FAVOR . . .

LOOK at your badge—everyone else does. If it is worn and brassy looking may we suggest that you look through our catalog and select one of the fine looking emblems you will find there. The cost is practically nothing compared with the years of use you get out of it.

Remember this when you are ready to buy badges. The C. G. Braxmar Company has been making badges and fraternal emblems for over fifty years. Only the finest and most durable metals are fashioned into badges by men who have spent a lifetime in this particular business.

If you will drop us a line we will gladly mail you a complete new catalog of badges. There is no charge or obligation—Write now.

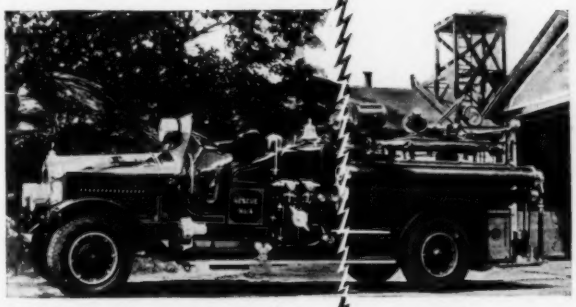
**C. G. BRAXMAR CO.**

242 West 55th Street, NEW YORK

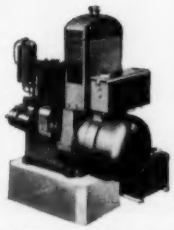
Formerly at 10-12 Maiden Lane



# A little island with big-city fire PROTECTION



*Chaffinch Island's fire-wagon, as modern as that of any large city fire department.*



*Kohler Electric Plants generate standard electric current at 110 or 220 volts A. C. or D. C. Capacities vary from 800 watts to 25 K. V. A. Model K shown above.*

CHAFFINCH ISLAND . . . off the Connecticut shore . . . boasts a one-man volunteer fire department with facilities regarded by metropolitan fire chiefs as 'way ahead of normal fire-fighting equipment.

(The equipment is the truck shown in the picture.) The crew . . . also the owner and chief . . . is Francis Ingalls of Guilford, who has made it his hobby to develop better and more efficient fire-fighting apparatus. One of the most essential safety devices on the truck is a Model K Kohler Electric Plant . . . bringing to Chaffinch Island protection against night-fires as sure as that enjoyed by the largest cities.

Big-city fire departments as well as village volunteer units have learned the vital service of bright lights at night fires, and at day fires where men must enter dark, smoke-filled buildings. Kohler Plants supply this need. There are small models which fit regular trucks, and large ones for special light trucks such as those used in New York, San Francisco and Chicago. With these plants, fire-fighters can have powerful searchlights and lights on extension cords for inside work. Send coupon for complete details about the use of Kohler Lighting units for fighting fires.

Kohler Co. *Founded* 1873. Kohler, Wis. — *Shipping Point,* Sheboygan, Wis. — *Branches in principal cities.* Manufacturers of Kohler Plumbing Fixtures.

## KOHLER OF KOHLER
### ELECTRIC PLANTS

KOHLER CO., Kohler, Wisconsin

Gentlemen: Please send catalog describing Kohler Electric Plants.

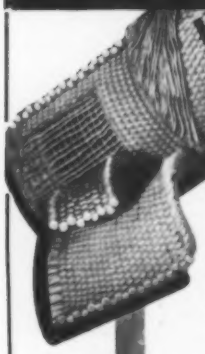
*Name*_____ FE-4-32

*Street*_____

*City*_____ *State*_____

*Our fire department ranks as Class*_____

# EUREKA FIRE HOSE



DEPENDABLE FIRE HOSE

Eureka Fire Hose has been recognized as standard for over fifty years. Paragon, another famous brand, is universally known for unexcelled quality and service.

When buying Fire Hose "standardize on Eureka." It is an investment in Fire Hose economy.

**Eureka Fire Hose Manufacturing Co.**
50 Church St., New York City
. . . BRANCHES . . .

| | | |
|---|---|---|
| Atlanta | Denver | Minneapolis |
| Boston | Des Moines | New York |
| Chicago | Detroit | Philadelphia |
| Columbus | Kansas City | Seattle |
| Dallas | Los Angeles | Syracuse |

Another
New HALE PUMP

Hale Type BB Rotary Fire Pump—350 gal. per minute capacity. Adapted for use on 1½ ton, six cylinder chassis. Also adapted for use in connection with large booster tanks.

A clean, compact and ruggedly designed pump, embodying all the features of the larger Hale Rotary pumps, such as sturdy rotor blades, heavy stainless steel pump shafts, automatic packing, four bearing pump shafts and patented smooth operating relief valve.

HALE FIRE PUMP CO., Inc.
Conshohocken, Pa.

# Every Fire Dept. Officer Should Have

## These Three Books—*Packed Full of Practical Information*

***Questions and Answers for Battalion and Deputy Chiefs***

A 210 page book, fully illustrated, by Geo. J. Kuss, former Deputy Chief, New York Fire Department, and Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

A valuable book, not only for candidates for examinations for Battalion and Deputy Chief, but for every member of the department. The only book published which gives detailed methods of operating at large fires and the reasons for each move.

The following are a few of the important topics covered:

Detailed description of the proper procedure in fighting fires: 1. Size-up; 2. Calling of help; 3. Saving of life; 4. Covering exposures; 5. Extinguishing fire; 6. Overhauling. How to test motor fire apparatus. How the following types of fires should be fought: Large department stores, large hotels and rooming houses, large area residential fires, combination stores and apartments, motion picture film exchanges, tall office buildings, wholesale grocery stores and warehouses, group building fires, theatres, schools, factories, etc., and considerable other data.

**Price—$2.15, postpaid.**

***Questions and Answers for Lieutenant and Captain***

A 290 page book, fully illustrated, by Geo. J. Kuss, former Deputy Chief, New York Fire Department, and Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

Contains questions asked at promotional examinations in practically every city in the country where civil service examinations are held, with answers.

Includes chapters on Report Writing, How to Answer Examination Questions, Chemistry Examination Questions, Fire Fighting Questions, Overhauling, Ventilation, Fire Prevention, Inspection, Evolutions, Drills, Use of Apparatus, Rescue Work, and in fact all the topics covered by the fire department promotional examinations.

If you are studying for a promotional examination, you need this book, and if you are not studying for examination, this book will nevertheless give you a vast amount of valuable information on up-to-date fire methods.

**Price—$2.65, postpaid.**

***Simplified Fire Department Hydraulics***

A 200 page book, fully illustrated, by Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

A complete course of instruction in fire department hydraulics. Designed to prepare fire department officers for hydraulic questions in examinations, such as required of all ranks.

Contains over 150 problems in fire department hydraulics asked in examinations in New York, Chicago, Milwaukee, Seattle, Newark, and a score of other large cities.

Treats fully all departments of fire department hydraulics, including pressure calculations, friction loss, engine and nozzle pressures, range of streams, capacities of engines, discharge from nozzles, hydrants, sprinklers, etc., etc.

**Price—$2.15, postpaid.**

***Use This Convenient Coupon to Order Your Copies Today.***

**Book Department,**
**FIRE ENGINEERING,**
**24 W. 40th St., N. Y. C.**

Please send me the books I have checked, for which I enclose money order (or check) for $.....

.....copies of Questions and Answers for Battalion and Deputy Chiefs ☐
.....copies of Questions and Answers for Lieutenant and Captain ☐
.....copies of Simplified Fire Department Hydraulics ☐

Name..... Rank.....
Address..... Date.....

## CONVENTION DATES

April 11—POLICE AND FIRE CHIEFS' CLUB, MONTREAL AND DISTRICT. Special Evening Dinner and Meeting 7:30, Place Viger Hotel, Montreal, Can.

April 11-13—FLORIDA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Ocala, Fla. Secretary, F. C. Praender, Winter Haven, Fla.

April 11-16—LOUISIANA SHORT COURSE FOR FIREMEN. Annual Short Course, Lafayette, La., under auspices Louisiana State Firemen's Association. Secretary, Chief A. J. Bethancourt, Houma, La.

April 12—MAINE FIRE CHIEFS' CLUB. Next Meeting, Bridgeton, Me. Secretary, Charles Bowken, South Paris, Me.

April 20—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY, N. Y. Next Regular Meeting, Weaver Street Fire House, Mamaroneck, N. Y. Secretary-Treasurer, Eugene Riviere, Fire Headquarters, Larchmont, N. Y.

April 26-28—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual Convention, and Drill School, Asheville, N. C. Secretary, John L. Miller, Concord, N. C.

May 3-6—BRITISH COLUMBIA FIRE CHIEFS' ASSOCIATION. 2nd Annual Convention, New Westminster, B. C., Can. Secretary, Assistant Chief DeGraves, Vancouver, B. C., Fire Department.

May 4—NEW LONDON COUNTY FIRE CHIEFS' ASSOCIATION. Monthly meeting, Noank, Conn. Secretary, Herbert P. White, Croton, Conn.

May 9-12—NATIONAL FIRE PROTECTION ASSOCIATION. 36th Annual Meeting, Atlantic City, N. J. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 11—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 3rd Annual Convention, Cape Charles, Va. Secretary, W. A. Karpa, Cape Charles, Va.

May 21—KEYSTONE FIRE CHIEFS' ASSOCIATION. Next Meeting, Glenside, Pa. Secretary, John V. Nolan, Malvern, Pa.

May 25—IOWA FIRE CHIEFS' ASSOCIATION. Annual Convention, Ames, Ia Secretary-Treasurer, Chief L. R. Morris, Ames, Ia.

May 24-27—IOWA FIREMEN'S SHORT COURSE. 8th Annual Short Course, Iowa State College, Ames, Ia. Address, Lindon J. Murphy, Municipal Engineer, Engineering Extension Service, State College, Ames, Ia.

May 27-28—EASTERN ASSOCIATION OF FIRE CHIEFS. 5th Annual Convention. DuPont-Biltmore Hotel, Wilmington, Del. Secretary, Chief F. E. Soulé, Coatesville, Pa.

June—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 43rd Annual Convention, Beacon, N. Y. (Exact date to be decided later.) Secretary, Chief Chris W. Noll, Poughkeepsie, N. Y.

June—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 60th Annual Convention, Gibsonburg, Ohio (exact date to be decided later). Secretary, Harry Smith, Supt., Water Works, Port Clinton, Ohio.

June—SOUTHERN CALIFORNIA FIRE CHIEFS' CLUB. Bi-Annual Meeting, Big Bear, Cal. (Exact date to be decided later.) Secretary-Treasurer, Chief Charles E. Smith, Chula Vista, Cal.

June 1-3—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, McAlester, Okla. Secretary-Treasurer, Charles Slemp, 820 East Nineteenth St., Oklahoma City, Okla.

June 5-10—SOUTH DAKOTA FIREMEN'S ASSOCIATION AND FIRE SCHOOL. 48th Annual Convention and 34th Annual Fire School, Rapid City, S. D. Secretary, M. C. Sullivan, Parkston, S. D.

June 7-9—FIRE CHIEFS' ASSOCIATION OF OHIO. 15th Annual Convention, Hamilton Ohio. Secretary-Treasurer, Fire Chief Philip J. Harty, Youngstown Sheet & Tube Co., Youngstown, Ohio.

June 10-11—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 26th Annual Convention, Folcroft, Pa.; Field Day and Outing, Woodside Park, Philadelphia, Pa. Financial Secretary, William E. Wunderlich, Lansdowne, Pa.

June 10-11—NORTHERN INDIANA INDUSTRIAL AND VOLUNTEER FIREMEN'S ASSOCIATION. 27th Annual Convention, Columbia City, Ind. Secretary-Treasurer, Fred G. Duryea, Fort Wayne, Ind.

June 13-15—FLORIDA FIRE COLLEGE. 3rd Fire College, Daytona Beach, Fla. Address, Florida State Firemen's Association, Fire College Committee, Chief Paul D. Joyce, Chairman, Haines City, Fla.

June 13-15—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 60th Annual Convention, River Falls, Minn. Secretary, Fred. Praender, New Ulm, Minn.

June 13-15—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 10th Annual Convention and Fire School, Raton, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M. Fire School under direction of Dean R. S. Rockwood, University of New Mexico.

June 14-15—MICHIGAN STATE FIRE CHIEFS' ASSOCIATION. 7th Annual Convention, Hotel Pantland, Grand Rapids, Mich. Secretary, George F. Dansbury, Grosse Pointe Farms, Mich.

June 14-16—STATE FIREMEN'S AND FIRE MARSHALS' ASSOCIATION OF TEXAS. 6th Annual Convention, Austin, Tex. Secretary-Treasurer, Olin Culberson, Edna, Tex.

June 15-17—WISCONSIN STATE FIREMEN'S ASSOCIATION. 45th Annual Convention, Clintonville, Wis. Secretary, E. Philip Mueller, Jeffersonville, Wis.

June 21-24—ILLINOIS FIRE COLLEGE. 8th Annual College, University of Illinois, Champaign-Urbana, Ill. Director Prof. L. H. Provine; Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

June 21-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 10th Annual Convention, Newport, R. I. Headquarters, Hotel Viking; Meetings and Exhibits, Casino, Newport Beach, Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.

June 22—CENTRAL WESTERN FIREMEN'S ASSOCIATION. (Ohio). Annual Convention, Piqua, Ohio. Secretary, Roger C. O'Donnell, Favorite Theatre Bldg., Covington, Ohio.

June 22-23—INDIANA FIRE CHIEFS' ASSOCIATION. Annual Convention. LaFontaine Hotel, Huntington, Ind. Secretary, Archie McCabe, Muncie, Ind.

June 28-30—ARIZONA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Prescott, Ariz. Secretary-Treasurer, H. W. Reggin, Prescott.

July—DOMINION ASSOCIATION OF FIRE CHIEFS. 34th Annual Convention, probably the third week of July, Halifax, N. S. (Exact date to be decided later). Secretary, Chief James Armstrong, Kingston, Ont. Chairman, Exhibit Committee, Chief W. S. Vaughan, St. John, N. B.

July 1—TEMISKAMING FIREMEN'S ASSOCIATION. Tournament, July 1; 8th Annual Convention, October 3, Kirkland Lake, Ont., Can. Secretary-Treasurer, F. E. Thompson, New Liskeard, Ont.

July 6-8—MARYLAND STATE FIREMEN'S ASSOCIATION. 40th Annual Convention, Frostburg, Md. Secretary, George R. Lindsay, Hagerstown, Md.

July 11-14—MICHIGAN STATE FIREMEN'S ASSOCIATION. 58th Annual Convention, Monroe, Mich. Secretary, H. L. Williams, Luddington, Mich.

July 25-27—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 10th Annual Convention. San Diego, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Ave., San Diego.

July 25-28—WEST VIRGINIA STATE FIRE CHIEFS' ASSOCIATION. 1st Annual Convention, Morgantown, W. Va. Secretary, Chief C. J. Powell, Romney, W. Va.

Aug.—VERMONT STATE FIREMEN'S ASSOCIATION. 42nd Annual Convention (exact date to be decided later), Bennington, Vt. Secretary-Treasurer, Chief Alfred H. Koltonski, Rutland, Vt.

Aug. 2-4—INDIANA FIREMEN'S ASSOCIATION. 16th Annual Convention, Columbus, Ind. Secretary, Clem Smith, Post Office Box 520, Terre Haute, Ind.

Aug. 8-9—MISSOURI ASSOCIATION OF FIRE FIGHTERS. 8th Annual Convention, St. Louis, Mo. Secretary-Treasurer, M. J. Mulvoy, 3500 So. Grand Boulevard, St. Louis, Mo.

Aug. 8-11—TEXAS FIREMEN'S TRAINING SCHOOL. 3rd Annual School, Texas A. & M. College, College Station, Tex. Director, Prof. H. R. Brayton, Dept. of Chemistry and Chemical Engineering, College.

Aug. 9-11—WISCONSIN PAID FIREMEN'S ASSOCIATION. 25th Annual Convention, Janesville, Wis. Secretary-Treasurer, Asst. Chief William H. Schultz, Sheboygan, Wis.

Aug. 10-12—VIRGINIA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, and Tournament, Alexandria, Va. Secretary, O. W. Dabney, Staunton, Va.

Aug. 10-12—CUMBERLAND VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 32nd Annual Convention, Alexandria, Va. Secretary, C L. Jacobs, Waynesboro, Pa.

Aug. 22-25—MONTANA STATE FIREMEN'S ASSOCIATION. 41st Annual Convention and 2nd Firemen's Short Course, Billings, Mont. Secretary-Treasurer, D. E. Moser, Billings, Mont.

Sept.—SHORT COURSE FOR VOLUNTEER FIREMEN. Next School date not decided upon; probably in September. Director, Dean A. N. Johnson, Engineering College, University of Maryland, College Park, Md.

Sept.—ARKANSAS STATE FIREMEN'S ASSOCIATION. 11th Annual Convention and Fire College, El Dorado, Ark. Secretary-Treasurer, H. D. Compton, Little Rock, Ark.

Sept.—OHIO FIRE SCHOOL. 3rd Annual Fire School, Ohio State University, Columbus, Ohio. (Exact date to be decided later.) Director, Harvey Walker, Dept. of Political Science State University.

Sept. 6-8—KENTUCKY FIREMEN'S ASSOCIATION. 13th Annual Convention, Corbin, Ky. Secretary, Capt. S. G. Render, 940 Starks Bldg., Louisville, Ky.

Sept. 6-8—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. 53rd Annual Convention Springfield, Mass. Secretary, Daniel J. Looney, 448 Old South Bldg., Boston, Mass.

Sept. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 45th Annual Convention, Orlando Hotel, Decatur, Ill. Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 16-17—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Atlantic City, N. J. Secretary, William Exall, 602 Chamber of Commerce Bldg., Newark, N. J.

Sept. 21-22—NEW CASTLE COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Wilmington, Del.

Sept. 21-22—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 12th Annual Convention, Wilmington, Del. Secretary, Sam H. Carson, Dover, Del.

Oct. 4-6—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 53rd Annual Convention, Lancaster, Pa. Secretary, Charles E. Clark, Wayne, Pa.

Oct. 18-20—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 50th Annual Convention, Falls City, Neb. Secretary-Treasurer, Fred. W. Muller, Norfolk, Neb.

Oct. 18-21—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 60th Annual Convention, San Diego, Cal. Convention Headquarters, U. S. Grant Hotel; Meeting and Exhibits, San Diego Municipal Pier. Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Avenue, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief W. S. Minter, Long Beach, Cal.

Oct. 18-21—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual Convention during Convention of International Association of Fire Chiefs, San Diego, Cal. (Exact date not set.) Secretary-Treasurer, Chief Ray Tiller, Waterloo, Ia.

Oct. 24-26—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 5th Annual Convention, to be held at same time and place as International Association of Fire Chiefs. Secretary-Treasurer, J. F. Taplin, Blackwell, Okla.

## Ex-Chief Jones of Macon, Ga., Dead

L. M. Jones, formerly Chief of Fire Department, Macon, Ga., died in his home while taking a nap. He was seventy-six years and had served as Chief for forty-four years.

He joined the volunteer department in 1878 as foreman and in 1882 became chief of the volunteer organization. When the city established a paid department, Chief Jones continued as head. He retired in 1926 at the age of seventy.

**Ames, Ia., has purchased** a Pirsch quadruple 750-gallon pumper to be delivered in June. Another fire station is being erected.

**Thomas Naphan, Office Manager** of the Gamewell Company for the New England district, died on March 7 at the age of forty-seven. He was with the company for twenty-seven years. He is survived by three brothers.

## POSITIONS WANTED

*These advertisements are inserted without charge as a service offered by FIRE ENGINEERING to everyone in the fire field. Use it.*

### Fire Apparatus Engineer

with wide practical experience in apparatus design and construction is available. At different times has been chief inspector, delivery engineer, and later in charge of all field engineers, service stations and branches for one of country's largest fire apparatus manufacturers. Will consider connection with manufacturer or city fire department. Complete information on request. Write: Box 595, c/o FIRE ENGINEERING, 24 W. 40th St., New York City.
Apr.

### Fire Apparatus Branch Sales Manager

with friendly connections with fire chiefs throughout country and experienced in selling all types of apparatus, wants new position in selling field. Has broad practical knowledge of apparatus design, construction, and maintenance. Age 36 years and married but no children. Will consider position anywhere. Will gladly furnish details of record. Address: Box 600, c/o FIRE ENGINEERING, 24 W. 40th St., New York City.
Apr.

## PROPOSED IMPROVEMENTS

**Lyle, Minn.** — City contemplating purchase of fire truck, according to reports. G. M. Anders, City Clerk.

**Longview, Texas**—City Commission decided to purchase new pumper for fire department at $6,500. Wm. N. Taylor, City Mgr.

**Meridian, Cal.** — A fire protection district is being planned for this vicinity and also purchase of piece of apparatus.

**Muncy, Pa.**—Council to start campaign to secure additional apparatus for fire department, according to reports.

**Parsons, W. Va.** — Site has been purchased for erection of fire station and volunteer fire department to be organized after building is completed. Frank Robinson, Mayor.


### Dealer Opportunity

Do you need more money? Substantial commissions paid to men who can close orders for a necessary piece of fire equipment. Territories available. Write now in absolute confidence. Address Box No. 515, c/o FIRE ENGINEERING, 24 West 40th St., New York City.


## Gas Explosion Kills Two

Two persons are dead, including Assistant Chief Harry W. Durham, and eleven were injured when a gas explosion of somewhat mysterious origin took place in the store room of the High School, Springfield, Ill. Some of the injured men are in a critical condition.

Fire started in the store room in the basement which is next to the engine room. The store room is a concrete enclosure fitted with a laminated metal fire door and the room was of slow-burning construction.

A theory is advanced that fire started among papers in the store room. The flames were confined to the room and the heat melted three gas meters hanging on the wall. When firemen, who responded, began looking around for the fire, they opened the store room and permitted air to enter. This resulted in an explosion that dealt the more serious injuries. Nine of those burned and injured were caught in this blast.

The second explosion occurred within fifteen minutes while the firemen were trying to extinguish the flames, and it is believe the blast resulted from a new accumulation of gas.

S. L. Legreid, State Fire Marshal, is conducting an investigation, as it is popularly believed that the fire and blast were of incendiary origin.

HUGO B. LEHNEN.

**Berkeley, Cal., has granted** a year's leave of absence to Lieut. Thomas Cuff, to become Fire Chief of Menlo Park with the express task of reorganizing the Fire Department of that community.

**The eighth annual short course** of Iowa will be held at the Iowa State College, Ames, Ia., May 25-27. The date of the meeting of the Iowa Fire Chiefs' Association has been changed to May 25.

**Chief John J. McElligott** of the New York Fire Department has appointed Acting Deputy Chief Charles W. Rankin in charge of the Marine Division. For nearly thirty years, Rankin was aid to Chief Edward F. Croker and Chief John Kenlon.

## Apparatus Destroyed in W. Concord, Mass.

Concord officials today are making plans for guarding the West Concord section of the town against fire, as a result of a disastrous blaze that destroyed a fire station with its equipment, burned five other buildings, damaged others, and for a time threatened the business center of West Concord.

Fire started in the fire station and spread so suddenly that two members of the department who were in a second-floor room, had difficulty in escaping from the building. Both tried to start the motor apparatus stored on the first floor, but were driven out by flames. A pumping engine, a ladder truck and a special truck used for fighting forest fires were destroyed. The town's loss is placed at $35,000. ...

In addition, a boarding house was burned to the ground, three stores, a combination house and store, a church and a school were heavily damaged, one of the burned buildings being more than a quarter of a mile from the place where the fire originated. Total damage may reach $100,000.

Apparatus from the main fire station in Concord Center, two miles away, was assisting the Lincoln department when the blaze in the fire station was discovered by a policeman. When the alarm box outside the burning engine house was sounded, only a single blow registered before the electric wiring was burned away. Sending the warning by telephone caused further delay and gave the flames a chance to spread. Help was sent from Lexington, Hudson, Maynard and Acton, and by keeping motor apparatus on the move as flying embers started various fires, the danger of conflagration finally was averted.

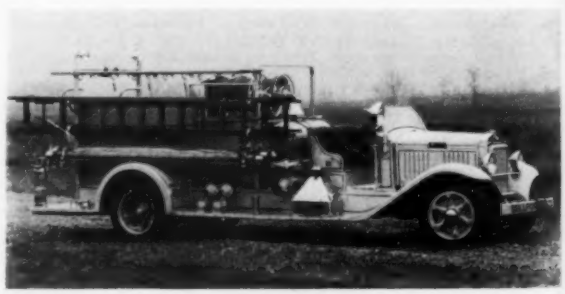
## Pier Burned in Atlantic City, N. J.

Steeplechase Pier, which for many years had served as an amusement center in Atlantic City, N. J., was destroyed by flames that swept the pier from end to end. Twenty minutes after the first alarm was turned in, every available fireman in the city was at the fire. An off-shore wind carried the flames seaward. Only the width of the boardwalk separated the blazing pier from the Chalfonte-Haddon Hall Hotel. Patrons were ordered from the Steel Pier, two hundred distant feet, when the heat from the fire cracked windows on the steel pier.

**At the annual convention** of the Oregon State Association of Fire Fighters held in Portland, the members went on record as favoring a state-wide civil service bill.

**Fifty years continuous service** as a volunteer fire-fighter has been rounded out by Col. Henry J. Rosenstihl, Chief of Fire Department, Union Springs, Ala. He joined the department as torch boy, and watched the department pass through the various stages of development.

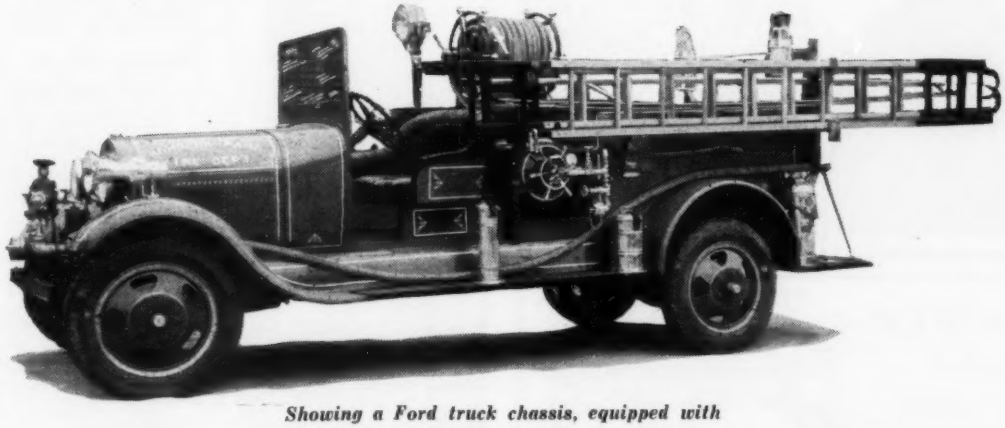
**John W. Leimer** has been appointed Acting Chief of the Franklin Square, Munson Fire Department on Long Island, to fill the unexpired term of the late Chief Paul Ryf who was killed in a collision with a Fire Department pumper while responding to a grass fire. Chief Leimer joined the department four years ago.



**Mack Apparatus of Unusual Design Delivered to Bellport, N. Y.**

A rather unique combination of fire-fighting appliances is incorporated in the design of the new Mack apparatus delivered to Bellport, L. I., N.Y. The apparatus carries two 40-gallon soda and acid chemical tanks, a 200-gallon water tank built into the body, and a 350-gallon booster pump. It has two automatic reels, piping, by-pass and other valves, and is so arranged that water from the booster tank can be discharged through the hose on both reels or the soda-acid solutions can be discharged through the hose on both reels, or the hose on one reel while water from the booster tank is being discharged through the hose on the other reel. Space is provided to carry an American Fomon Model No. 5 booster generator and five hundred feet of 2½-inch hose. The apparatus carries the usual amount of extinguishers, ladders, axes, etc.

# *Build Your Own*
## Fire Trucks for Rural and Suburban Service



*Showing a Ford truck chassis, equipped with*

LUVERNE STANDARD FIRE TRUCK PARTS

*which are furnished with all sizes and types of fire pumps*

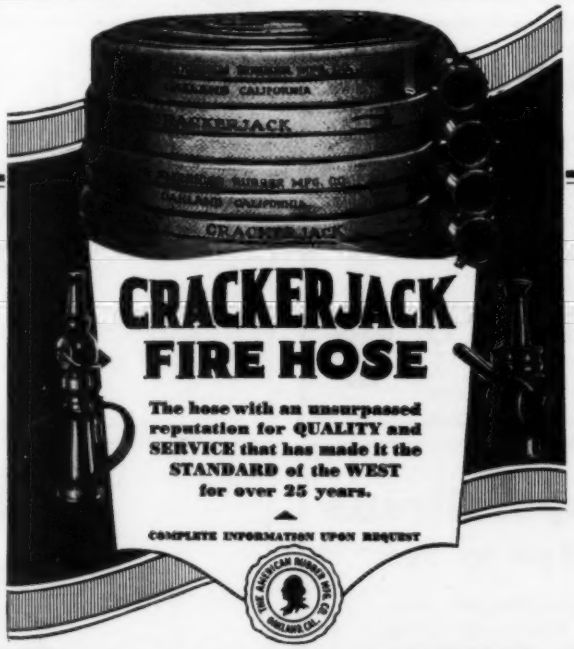
FOR ANY MAKE OF COMMERCIAL CHASSIS

*Detailed information, prices, etc., sent on request*

**LUVERNE FIRE APPARATUS CO.**
**LUVERNE, MINNESOTA**

SALES OFFICES

FAIRHAVEN, MASS.
43 Fort Street
SCRANTON, PENN.
P. O. Box 100
BALTIMORE, MD.
407 Munsey Bldg.
CHARLESTON, W. VA.
703 Morris Street
ATLANTA, GA., Forsyth Bldg.
MOBILE, ALA.
811 Springhill Avenue
CHICAGO, ILL.
201 East 82nd Street
KANSAS CITY, MO.
5547 Lydia Street
DENVER, COLO.
1936 Market Street


CRACKERJACK
FIRE HOSE
The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD of the WEST for over 25 years.
COMPLETE INFORMATION UPON REQUEST

SALES OFFICES

DENTON, TEXAS
P. O. Box 471
EL PASO, TEXAS
307 San Francisco Street
SALT LAKE CITY, UTAH
149 W. 2nd South Street
BOISE, IDAHO, P.O. Box 1427
SPOKANE, WASH.
112 S. Monroe St.
SEATTLE, WASH.
1217 Western Ave.
PORTLAND, OREGON
602 Bedell Bldg.
LOS ANGELES, CAL.
458 S. Spring St.
SAN FRANCISCO, CAL.
7 Front Street

# THE AMERICAN RUBBER MFG. CO.

FACTORY AND GENERAL SALES OFFICES

**OAKLAND, CALIF.**

R. J. (Dick) Graves, General Sales Mgr.

## New Victor Gas and Fume Mask

Better Rubber. Longer Life Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

**Over 5,000 Victor Gas Masks in Service**

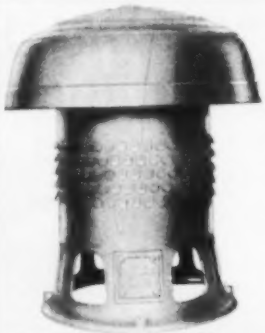
**Full Line Fire Dept. Supplies and Equipment**

*New 43 Edition Catalog on Request*

**The Woodhouse Mfg. Co., Inc.**

**156 Chambers St., New York**

D. A. Woodhouse, Pres. and Gen. Mgr. — George J. Kuss, Vice-Pres. and Treas.



## STERLING FIRE ALARM SIRENS

For Fire Departments.
A Siren for every need.
General Alarm Code Apparatus

Send for Bulletin No. 667

**The Sterling Siren Fire Alarm Co., Inc.**

60 Allen Street — Rochester, N. Y.

## COOPER FIRE ALARMS

PERFECT CODING

Operated from Present Systems

**Powerful — Instant Response — Penetrating**

Produce more sound and cost less than ordinary alarms. Many sizes to solve any requirements. One community saved $788 in operating expense only by using Cooper Alarm.

Write for bulletins and let us solve your fire alarm problems. Coded systems $250 up.

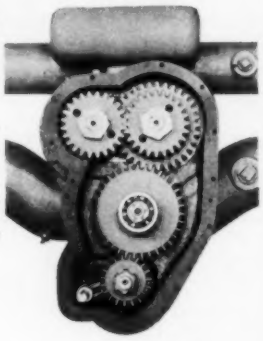
Patented and Manufactured by

**CLARK COOPER CO.**

153-159 JEFFERSON ST. — PHILADELPHIA

## WATEROUS

DEPENDABLE FIRE PUMPS



Built by the pioneer producer of automotive fire pumps. Proven design and rugged construction.

WATEROUS COMPANY
St. Paul, Minnesota

Waterous Dependable

## EDDY Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

*Write for the Facts*

**EDDY VALVE CO.**
**Waterford, N. Y.**

James B. Clow & Sons, Chicago Agents

## JOHN H. CLAY, INC.

1320 Ridge Ave., Philadelphia, Pa.

Established 1864

**DOOR SPRINGS**

Complete Automatic Spring Outfits for Doors Opening In and Out. Used throughout the world. Once on the doors your door opening troubles cease. They last a lifetime. Send for Bulletins.

## Hedberg Super Sirens

**"The World's Best by Test"**

offer the world's greatest and most versatile range of choice involving sizes and methods of operation.

***Write for descriptive matter showing sirens that have never lost in competition.***

**J. N. HEDBERG**

321-49 W. REED ST.

SAN JOSE — CALIFORNIA

## *Number, Please!*

You'll find it (1-112) listed on page 173. Literature on any equipment will be sent on request.

FIRE ENGINEERING

## T. S. Flannery Named Wilkes-Barre Chief

Thomas S. Flannery, Assistant Chief of the Wilkes-Barre, Pa., Fire Department, has been named Chief by the City Council to fill the vacancy caused by the resignation of Chief Frank Hochreiter.

Chief Flannery joined the department in 1915 and resigned in 1917 to enlist in the army. After the World War he again became a fireman. In 1920 he was promoted to Assistant Chief. He served in that office until his promotion recently.

Chief Thomas S. Flannery

Asst. Chief James A. McGuire

Captain James A. McGuire has been promoted to Assistant Chief to fill the vacancy caused by the advancement of Chief Flannery.

## Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Winthrop, Minn.—Harry Palmer
Glenview, Ill.—Carl Ladendorf
Newell, S. D.—Joseph Anderson
Woodland, Mich.—Arthur Allarding
Hawarden, Ia.—J. W. Brewer
New Richland, Minn.—O. S. Martinson
Grand Rapids, Minn.—William Power
White Cloud, Kan.—George Zimmerman
Wray, Col.—John Meyers
Tupper Lake, N. Y.—Edmond Auclair
Cheeney, Wash.—John Roos
Lebanon, Pa.—John L. Zimmerman, Jr.
Wellington, Ohio—Lyn Coates
Kimberton, Pa.—William Wilson
Bloomingdale, N. J.—John W. Francisco
East Northport, N. Y.—Henry Kohler
Marysville, Pa.—C. P. Fesler
Hustinsford, Wis.—Roland Radloff
Cambridge, Ill.—Otto Hagg
Eddystone, Pa.—John Zimath
Put-in-Bay, Ohio—Nathan H. Ladd
Uma, Col.—C. D. Godsey
Junction City, Ore.—Clarence Harpole
Trappe, Md.—Levin Morris
Chestertown, Md.—Herman Blackway
Lexington, Va.—C. E. Woodward
Rio Grande, N. J.—R. C. Kennedy
Whitewater, Wis.—Ben Kraeplin
Plentywood, Mont.—Martin Nelson
Humboldt, S. D.—Gust Kruse
Spender, S. D.—Mat Jacquart
Doland, S. D.—Charles Bosley
Lamont, Ia.—Lon Jenks
Greeley, Ia.—Clare Taylor
Abingdon, Md.—William Howard
Killdeer, N. D.—Anton Wetsch
Cathlamet, Wash.—Mitchell Doumit
Henry, Ill.—Isaac Gilpin
Calumus, Ia.—Clifford Malmarger
Hancock, Md.—Thomas P. Gilleece, Sr.
Centreville, Md.—F. Asbury Bartlett
Rutledge, Pa.—J. A. Thompson
Viborg, S. D.—Alfred Nelson
Guttenberg, Ia.—Armin Grossel
Cannistota, S. D.—J. F. Haas
Tiskilwa, Ill.—H. E. Anderson
New Milford, N. J.—Frank Wohlferth.
Lake Benton, Minn.—B. F. Marti
Cleveland, Minn.—Harry Busse
Black Eagle, Mont.—Julius Palagi
Greenleaf, Wis.—Seward McClure
Britt, Ia.—C. L. Hartzoll
Irene, S. D.—O. G. Johnson

## New England Chiefs Plan for San Diego Trip

The New England Association of Fire Chiefs, in a letter sent out by Secretary John W. O'Hearn, has announced its plans for convention of the International Association of Fire Chiefs which will be held in San Diego, Cal., October 18-21. Those who are to attend from the New England area will leave Boston, October 13, at 9:30 a.m. and will arrive in San Diego, October 17, at 9:30 p.m. For the return trip, the members will leave San Diego, October 22, at 8:30 a.m., and will arrive in Boston, October 28, at 5:30 p.m.

The trip, it is said, can be made for $300, including ticket, Pullman, meals, hotels and sightseeing expenses. The arrangements include a day at Grand Canyon and a day at Chicago on the return trip. Should twenty-five persons get together and charter a special railroad car, the expenses will be less.

## Marshfield Wins Condemnation Suit

The U. S. Supreme Court returned a verdict in favor of Marshfield, Oregon, in the suit brought by Mary Gow Why to prevent the city from carrying out condemnation proceedings.

Part of the building was destroyed by fire and the city refused to grant her a permit to have the burned part repaired. The plaintiff contended that the City Council passed a resolution condemning the building as a public nuisance and on the ground that it was a fire hazard.

In the opinion of the court, "The action of the City Council could not be considered arbitrary or unreasonable in finding that the structure was a nuisance when it had sufficient evidence to sustain the findings."

## Ex-Chief Reinisch, Lawrence, Kan., Dead

William F. Reinisch, Chief of the Lawrence, Kan., Fire Department for thirty-one years, and a member of the department since June 1, 1894, died on March 21. He had retired from active fire service March 1.

Chief Reinisch presented his resignation, effective March 1. In his letter to the Commissioners he said:

"I am not physically able to take care of the work any more. I wish to thank the Commissioners for the cooperation they have always shown me. I am retiring after about thirty-eight years of service."

Chief Reinisch has been off duty for several weeks following treatment in a Kansas City hospital and for a time was confined to his home.

He was awarded the League of Kansas Municipalities Diamond City service button on October 19, 1926.

Chief Reinisch had a wide acquaintance among the Kansas Fire Chiefs. He was a member of the International Association of Fire Chiefs, and the Kansas State Association of Fire Chiefs, of which he was President in 1919.

## Chief Smith of Fort Scott, Kan., Dead

Chief Mortimer W. Smith, of Fort Scott, Kan., died after serving forty-five years in the department, sixteen years as Chief.

When fifteen years old he joined the volunteer department in 1887 as a messenger boy. In 1892 he was appointed hoseman in the paid Fire Department and then foreman three years later. He became Chief in 1916.

According to reports, within recent years Chief Scott received an offer to become Chief in Kansas City., Kan., but he preferred remaining with the department that he had joined when a boy.

The Late Chief M. W. Smith

**Henry L. Humphrey,** service representative for the Gamewell Company, Newton, Mass., for thirty-eight years, died in Weymouth, Mass., at the age of seventy-six. He installed a number of fire alarm and police signal systems throughout New England. His widow survives.

**Amherst, Ohio,** has awarded a contract for Ahrens-Fox fire apparatus.

**A meeting of the** Southwest Washington Firemen's Association was held in Aberdeen, Wash. Assistant Chief William Tamblyn was in charge of arrangements.

**Chief Andrew T. Doran** of Greenfield, Mass., died on a fire truck while on the way to a fire. Following a medical examination, it was stated that death was due to a heart attack. He had been Chief since January 11, when he was appointed as Greenfield's first permanent Chief.

# INSURING SECRECY IN REQUESTS FOR AID IN FIRE EMERGENCIES

**Use of Secret Code Word by Chiefs Discussed by Westchester, N. Y., Fire Chiefs' Plan at Its Regular Meeting**

STAMFORD, Conn., was host to the Fire Chiefs' Emergency Plan of Westchester County, N. Y., at the regular meeting of the Plan on Wednesday, March 16, on invitation of Chief Victor H. Veit. The meeting, which was held at the Central Station, Stamford, was opened by President D. Wiley Travis, with about eighty Westchester County and Connecticut Chiefs and other Fire Department officers present.

**Chief Victor H. Veit**
**Stamford, Conn., host to Westchester Chiefs**

There was considerable discussion on the subject of the proposed code word to be used in calling for assistance by a member department of the Plan, in case of urgent need. Ex-Chief Mulcahey, of Yonkers, brought the subject up, by suggesting that the word chosen by the committee had become known to too many individuals to be of any service for the purpose intended. He believed that the word chosen should be known only to the Chief of the department, and possibly the Assistant Chief.

It was suggested that the various groups or zones could each choose their own word, and that it could be frequently changed. This was objected to on the ground that it might cause confusion. It was, however, agreed by all speakers that absolute secrecy was desirable in giving out the code word, so as to avoid the danger of individuals outside of the department calling for assistance, when not needed.

It was finally moved by Chief Gibson, of Mount Vernon, to refer the matter back to the committee, for further action.

Secretary Riviere was instructed to send a letter of condolence to Captain Dawkins on the death of his mother. The Secretary reported that he had sent a letter suggesting fraternal action, to President Taft, of the New London County Fire Chiefs' Association and had received a pleasant reply from him.

Ex-President Towle, Chairman of the Nominating Committee, presented the official slate for officers to be elected at the next meeing, as follows. For President, Chief Arthur E. Steuhl, Eastchester, N. Y.; First Vice-President, Chief James Sullivan, Greenwich, Conn.; Second Vice-President, Chief Chet Dobbs, Scarsdale, N. Y.; Third Vice-President, Chief Rozner, Chappaqua, N. Y.; Secretary-Treasurer (renominated) Lieut. E. Riviere, Larchmont, N. Y. Directors —Chiefs Gibson, Veit, Outhouse and Ex-Chief McCullough. Directors remaining in office—Ex-Chiefs Mulcahey and Lemon and Chiefs Griffen and Brennan.

It was voted, on invitation of Chief Howe, to meet on April 20, at the Weaver Street Fire House, Mamaroneck Township, N. Y.

## Chief Callahan Against Budget Cuts

Chief H. J. Callahan of Fort Dodge, Ia., President of the Iowa Fire Chiefs' Association, has sent out a warning to the municipalities in the state against proposed reductions in Fire Department budgets. He said:

"Some cities and towns in Iowa are planning reductions in funds allotted for Fire Department purposes. This is a dangerous procedure for any municipality and can and may prove very costly for the citizens of any community that practices this type of false economy.

"Good fire protection cannot be measured by any yardstick of dollars and cents. The safety of the citizens and their property should be the paramount aim of every community. Other branches and activities of a city government should be curtailed to the utmost before the safety of lives should be jeopardized by curtailing the functions of public protection.

"Reducing or relaxing public fire protection at this time is not only false economy, but it borders very closely on being a crime. No business man or other citizen knows when he or his family may need the services of the Fire Department, and need it badly, and he should see to it right now that the Fire Department in his city or town is not seriously crippled by misguided officials in the name of economy. Saving money by reducing fire protection is like refusing to consult a doctor when you are sick on account of the expense involved, even though you may lose your life."

## Massachusetts Chiefs Meet in Boston

Morgan T. Ryan, State Registrar of Motor Vehicles, was the speaker at the meeting of the Fire Chiefs' Club of Massachusetts held in the Hotel Statler, Boston, on March 16. Secretary F. Burt Jaquith and Chief Frank Tracy, of Woburn, President of the club, sat at the head table with Mr. Ryan at the luncheon which preceeded the meeting.

Announcement was made of the election to membership in the club of Chief Patrick J. Brock, of Southboro, Mass.

## Box 52 Association Holds Meeting

By invitation of Chief T. Robert Quinlan, of Needham, Mass., the March meeting of the Box 52 Association, of Boston, was held in the new Central Fire House in Needham. President P. Hildreth Parker was in charge of proceedings. The principal speaker was Senator Samuel H. Wragg, of Needham. Among the guests were Chief Frank Tracy, of Woburn, President of the Fire Chiefs' Club of Massachusetts; Chief George L. Johnson, of Waltham, Mass.; Chief William H. Hill, of Belmont; Chief David A. DeCourcey, of Winchester; Chief Clarence R. Randlett, of Newton; Chief Daniel B. Tierney, of Arlington; and George Ernest Robinson, of Boston, the architect who designed the structure.

HARRY BELKNAP.

## Spencer Named New York Deputy Chief

John Spencer, who has served as Battalion Chief in the 21st Battalion, Staten Island, since 1916, was promoted to Deputy Chief on March 4, and upon his request will continue to serve with the Staten Island forces.

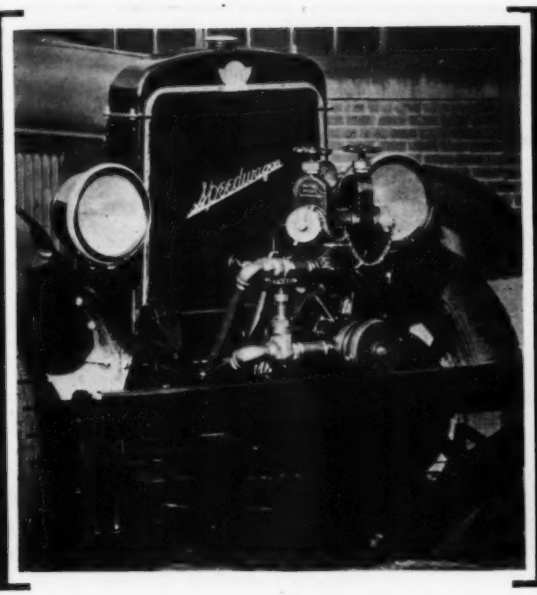
Chief McElligott, who was recently promoted to head of the department, presented Deputy Chief Spencer with his own set of gold insignias which he had worn while Deputy Chief in charge of the Marine Division.

**Deputy Chief John Spencer**

Spencer joined the Fire Department on December 16, 1895, and he received his first promotion on December 11, 1903, when he was qualified as Engineer and transferred to Engine Company No. 6. A year later, August 3, 1904, he was advanced to Lieutenant. On June 12, 1907, he was made Captain of Engine Company No. 24, and was made Acting Battalion Chief in 1911. In 1919 he was transferred to Staten Island in charge of the 21st Battalion.

Chief Spencer won the Administration Medal in 1930 for a device for fighting waterfront fires. He has developed a number of tools for simplifying Fire Department work, and these have been described from time to time in FIRE ENGINEERING. He has been mentioned twice in the service record for bravery and meritorious service.

**The Cycle Club** of the New York Fire Department in which Dr. Harry M. Archer is so interested, presented the official Chief badge and the insignia to Chief John J. McElligott, the new chief. The order for the badge and insignia was placed with the C. G. Braxmar Co., New York City.



## Ideal Apparatus to Meet 1932 Budgets

YOU can save your community hundreds of dollars and still have first class, adequate protection by insisting upon the Barton Fire Pump.

With a Barton Pump no special, high priced fire truck is required. Any standard commercial chassis can be successfully used—and without costly changes, special transmission, etc.

As shown above, the Barton Pump mounts on front. It is driven by the truck motor in a simple, positive manner, involving a patented principle which protects both pump and motor from wear or injury.

Both the U-34, 300-gallon pump and the U-45, 500-gallon pump have passed the Underwriters' 12-hour Tests. Being centrifugal type, they will pump clean or dirty water from city mains or from suction. They are automatically primed.

A Barton Fire Pump gives you the utmost in dependable performance—at much lower cost. Consult your apparatus dealer, or write us for Bulletin 60. AMERICAN STEAM PUMP COMPANY, Battle Creek, Michigan.

# BARTON FIRE PUMPS

# THIS EMBLEM

A.D.T. SYSTEM

# MEANS THIS TO YOU.....

● It means a great organization helping YOU to guard against and fight fires. Every new installation of A. D. T. protection devices is one more chance of getting the apparatus to the fire in the shortest possible time.

● A. D.T. may be found on many different devices. For instance, the Aero Automatic Fire Alarm "feels" fire...and, within a few seconds, an alarm is transmitted to the nearest fire headquarters. A. D.T. also stands for the supervision of night watchmen. This service keeps them on the job ... they must patrol and report at their stations on time or A. D. T. checks up on them ... instantly! Where A. D. T. stands guard, VIGILANCE is COMPULSORY.

● A.D.T. is always glad to hear from fire fighters anywhere...especially where their protection services have been able to prove their great value to fire departments. Write us.

CONTROLLED COMPANIES OF

AMERICAN DISTRICT TELEGRAPH COMPANY

155 SIXTH AVENUE - NEW YORK N.Y.

# FALSE ALARMS

—Courtesy of Judge

First Fireman: "Well, better late than never, boys."

### BOYS OR GIRLS

A recent arrival from the "ol' country" called on a relative stationed in a waterfront house. When the boat was taken out to "work in" a part that had been added to its engine, the visitor was taken along.

He watched a flock of sea-gulls floating high above the fireboat, and struck by their beauty, he said, "Shure, those are foine pigeons."

He was corrected by his companion: "Those aren't pigeons. Those are gulls."

"Gulls or boys," the Irishman replied; "they are foine birds."

---

And it'll soon be time to start disagreeing with your wife over where you won't be able to afford to spend your vacation.

---

### WELL PROTECTED

There was keen competition for the office of Chief at the annual election of the volunteers. So spirited an election excited the interest of the local editor and he called to watch developments. In the meeting hall, he asked a pessimistic member:

"What do you think of the candidates?"

"What do I think of them?" questioned the individual. "Well, when I look at them, I'm thankful only one of them can get in."

---

### A DEMONSTRATION

A member of a salvage company was up on trial. It was claimed that when a resident tried to enter the damaged building, after a number of attempts, the fireman struck him. On the witness stand, the defendant claimed that he had only punished the victim a "little bit."

"Well about how hard?" asked the prosecuting attorney.

"Oh, just a little bit," repeated the salvage man.

"Now," answered the lawyer, "for the benefit of the judge and the jury, just step down here and with me for the subject, show just how hard you mean."

The fireman leaped down, slapped the lawyer in the face, seized him bodily, lifted him from the floor and hurled him across a table. Then turning to the judge he said:

"Your honor and gentlemen, about one-tenth that hard."

---

All men are born free and equal, but most of them spoil it by getting married.

---

### A DRAWBACK

A new piece of apparatus was delivered to a southern company. A darky who cleaned up the building, gazed fondly on the mass of shining metal and paint, and seemed justly proud. Not a finger print escaped his careful supervision. Another colored man, a friend, came in to admire the pumper.

"How fast can you all go in dat new car?" he asked.

"Ah guess de cap'an can make two miles a minute 'ceptin' for one thing."

"What's dat, big boy?" asked his friend.

"Only jes' cause de distance is too long for de shortness of de time."

---

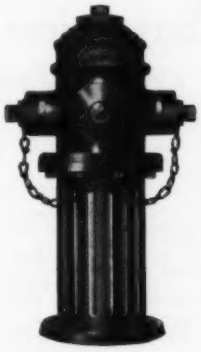
It may be expensive to play the ponies, but it costs more to play the pony chorus.

—Drawing by "Art" Espey

The Visiting Firemen Were Soon Made to Feel Very Much at Home

In one Illinois town, when fire broke out, two neighboring departments were called. When the outside firemen arrived, it was found that one of the companies had couplings of different specifications and so that unit went back home. The other company was put to work. Local firemen left for their respective homes to have their "supper." The visitors had the honor of extinguishing the fire without any interference. That's why the best of friendly relations no longer exist.

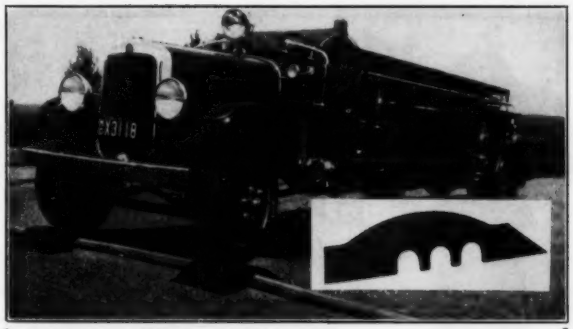
*Here's why FIRE CHIEFS recommend*



# CRISPIN
## FIRE HYDRANTS

FIRE departments should demand hydrants especially designed for fire service. The CRISPIN hydrant was designed to help you fight fires more efficiently, Chief. Before you replace old hydrants or install new ones, we suggest you let us send you our folder which completely describes CRISPIN hydrants and just why you should recommend them for your city or town.

**MULTIPLEX MFG. CO.**
BERWICK, PA.
*Offices:* 165 B'way, New York. *Plant:* Berwick, Pa.



# DAY'S *metal* HOSE BRIDGES
## *Protect valuable hose Keep traffic moving*

HERE'S an absolute necessity in every department. Made for one, two or three lines of hose. Tested to withstand 15 ton load, yet light enough to handle easily. Made so that they will not slide on road. Sold in pairs that rest compactly on apparatus. They actually save costly hose, create good will by keeping traffic moving and they last a lifetime. Write for prices, now.

**GUS L. DAY** MENDHAM, N. J.

COMFORT AND SECURITY WITH THE

COMFORTABLE AS YOUR OLD FELT HAT; WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

# CAIRNS
LATEST LOW HEAD CUSHION LINED
# HELMET

Send for your copy of Catalog No. 227, showing this latest improvement.

**CAIRNS & BROTHER**
72 GRAND STREET Established 1836 NEW YORK

**If** you want to give your town the best protection that money can buy, you can do it by specifying

# BUFFALO FIRE APPARATUS

*Send for new catalog completely illustrating and describing this better fire apparatus*

**BUFFALO FIRE APPLIANCE CORP.**
44 Central Avenue Buffalo, N. Y.

Quick Acting Reliable

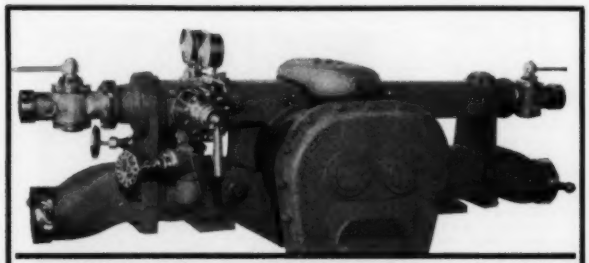
Anderson-Hale Improved

**FIRE STATION DOOR OPENERS**

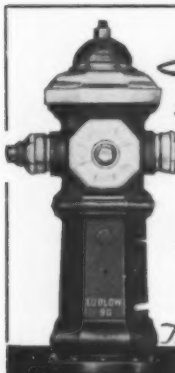
Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening. Opens from driver's seat or from floor. Many repeat orders from users.

*Write for complete information.*

**The Anderson Coupling & Fire Supply Co.**
*Mfrs. Motor Fire Equipment and Fire Supplies*
Kansas City, Kansas



**NORTHERN PUMP COMPANY**
ESTABLISHED 1907
MINNEAPOLIS, MINN.



*Introducing new safety factors*

*The* **LUDLOW DIAMOND**

*self-illuminating hydrant*

*Write for new descriptive folder—free to any interested official.*

*The* LUDLOW VALVE MFG. CO.
TROY NEW YORK

**Saves time - *and costly hose***

No. 1. (Capacity 3 to 7 tons; weight, each, 72 lbs.)

No. 2. (Capacity 5 to 12 tons; weight, each, 118 lbs.)

Complete information and Prices on request.

It's often necessary to move apparatus at a fire. Automobile traffic hates to be held up by a line of hose stretched across the right of way.

Why ruin your hose by driving over it? Or waste valuable time cutting off and disconnecting?

The Wausau Protector is a big time and money saver—easy to handle and carry. Order a set today, or write us for particulars

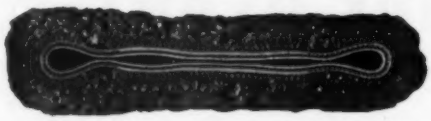
**Wausau Fire Hose Protector Co.**
**1520 Harmon Place, Minneapolis, Minn.**

**HEWITT-GUTTA PERCHA**
**FIRE HOSE**

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

Manufactured by
HEWITT - GUTTA PERCHA
RUBBER CORPORATION
BUFFALO, N. Y.
*"Territories Available"*

**Bi-Lateral Fire Hose**



The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.

Lined with three rubber tubes, specifically guaranteed for six years.

**BI-LATERAL FIRE HOSE CO.**

15 Park Row
New York, N. Y.

20 N. Wacker Drive
Chicago, Ill.

FEDERAL
TYFON SIRENS

A compressed air siren unequaled for simplicity of parts and economy of operation. Tremendous tone volume. Operates on low air pressure. Available in single, double and triple units. Can be used for general alarm or to give code signals. Will operate from any existing fire alarm system or circuit. Write for new low prices.

FEDERAL ELECTRIC CO.
8702 South State Street
Chicago, Illinois

*The* FINEST LARGE NOZZLES *and* DECK GUNS are "Made by MORSE"

Practically every well known Fire Boat in service in this country today is equipped with MORSE "Invincible" Nozzles, many pieces of fire apparatus are also equipped with these exceptionally fine nozzles. They are the result of nearly a hundred years of experience in producing nozzles that are a lot better than the general run of fire nozzles.

ANDREW J. MORSE & SON, INC.
221 High Street
BOSTON, MASS.

**THE NEW EASTMAN DELUGE GUN**

is a portable turret pipe that can be used on the ground or mounted on the apparatus. This photo shows our three-way gun used on the ground, connected to two lines of hose. This gun may be furnished with either two-way, three-way or four-way Siamese, as desired.

*Write for new general catalogue*
**SAMUEL EASTMAN COMPANY**
Concord, N. H., U. S. A.

Our Advertisers

have data and information which can help you greatly. Get in touch with them.

# What Will You Have?

1 Acid Siphons
2 Adaptors for Changing Hydrant Threads
3 Acid Jars and Rings
4 Aerial Ladders, Detachable
5 Aerial Trucks
6 Alarms, Sirens, Electric
7 Alarm Systems, Industrial
8 Alarm Systems, Municipal Telegraphic
9 Alarms, Thermostatic
10 Asbestos Clothing
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars
14 Battery Zincs for Fire Alarm Batteries
15 Bells, Fire Alarm, Municipal
16 Body Equipments
17 Boxes, Gongs, Reels, Registers, Fire Alarm
18 Brakes, Air
19 Brake Linings
20 Brooms, Fire
21 Building Materials, Fire Retardant
22 Caps, Firemen's
23 Chains, Non-Skid Fire Apparatus
24 Chassis for Fire Apparatus
25 Chemical Engines and Tanks
26 Chimney Fire Fuses & Compounds
27 City Service Trucks
28 Coats & Suits, Firemen's Quick Hitch
29 Combination Chemical and Hose Cars
30 Cutting & Welding Equipment, Blow Torch
31 Cutting & Welding Equipment, Electric
32 Deluge Sets
33 Door Openers, Fire Station, Automatic
34 Extinguishers, Calcium Chloride
35 Extinguishers, Carbon Dioxide
36 Extinguishers, Soda-Acid
37 Extinguishers, Carbon Tetrachloride
38 Extinguishers, Foam
39 Extinguishers, Powder
40 Fire Boat Nozzle Equipment
41 Fire Department Supplies, General
42 Fire Exit Devices, Door Opening
43 Fire Alarm Posts
44 Fire Escapes, Portable
45 Fire Escapes, Rigid
46 First Aid Equipment
47 Flare Lights
48 Flashlights, Hand
49 Flood Lighting Equipment
50 Foam Generating Apparatus
51 Foam Liquid for Extinguishers
52 Gas Masks and Respirators
53 Gas & Smoke Helmets
54 Gas & Smoke Generators
55 Goggles, Firemen's
56 Helmets, Metal, etc.
57 Hose Bridges
58 Hose Carts, Reels & Racks
59 Hose Clamps
60 Hose, Fire
61 Hose, Chemical
62 Hose Holders
63 Hose Jackets
64 Hose Standardization Tools
65 Hydrant Draining Pumps
66 Hydrants, Fire
67 Jacks for Fire Trucks
68 Jacks, Shoring & Prying
69 Ladders, Fire
70 Lightning Arresters
71 Motorcycles, Fire Dept. Equipped
72 Nets, Life
73 Nozzles, Pipes and Miscellaneous Brass Goods
74 Packings, Pumps
75 Pads, Pole Hole
76 Paints, Fire Resisting
77 Priming Ether, Motor
78 Pumping Cars, Standard
79 Pumping Cars, Foam
80 Pumps, Fire Apparatus
81 Pumps, Fire Service, Stationary
82 Pumps, Portable for Fire Protection
83 Record Books, Fire
84 Relief Valves
85 Reviving Apparatus, Oxygen
86 Rubber Clothing
87 Salvage Covers
88 Searchlights
89 Shingles, Fire Retardant
90 Shirts, Firemen's Special
91 Sirens, Apparatus & Chiefs' Cars
92 Sliding Poles
93 Soda & Acid Chemicals
94 Spark Plugs, Fire Apparatus and Motorcycles
95 Squad and other Auxiliary Cars
96 Sprinkler Head Shut-Offs
97 Sprinkler Supervisory Service
98 Sprinkler Systems, Automatic, Foam
99 Sprinkler Systems, Automatic, Water
100 Steam Fire Engines
101 Syphons, Water
102 Tarpaulins & Fire Blankets
103 Tetrachloride Chemicals
104 Thawing Equipment, Hydrant
105 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid
106 Tractors
107 Traffic Clearing Systems
108 Triple Combination Pumping Cars
109 Uniforms
110 Water Towers
111 Wheels, Cushion
112 Whistles, Fire Alarm, Compressed Air
113 Whistles, Fire Alarm, Steam
114 Whistles, Fire Apparatus
115 Wrecking Trucks

## Here's a Tip

Up-to-date information on modern fire-fighting equipment and supplies, as listed, may be obtained by:

1. *Looking over the list.*
2. *Jotting down the numbers on the coupon which indicate the equipment you wish literature on.*
3. *Filling in and mailing the coupon to us.*

No obligation whatever! Such service is a pleasure! Here's a tip!

FIRE ENGINEERING, 24 WEST 40th St., New York City

As a fire protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the following numbers:

Name.....

Position.....

Street.....

City and State.....

Nos.....

Nos.....

Nos.....

4-32

T. P. Treadwell
Chief of Fire Dept.
Fort Collins, Colo.

REDUCE
WATER DAMAGE
and
INSURANCE RATES
With
Shuredry
SALVAGE COVERS

*"May I have eight more of your folders 154-R-1. They are just what I have been looking for to use during Fire Prevention Week at the grade schools to show the children what we mean by the salvage method used by our department. We have twelve of your standard SHUREDRY covers in service, and our next order will be for SHUREDRY GREEN-BAK, as they don't show the dirt so plainly as do our white ones. But at that, we would not sell them back to you for three times their cost if we could not not get them replaced."*

*T. P. Treadwell*

75% of the nation's annual half-billion fire loss is traceable to Water Damage. Send for Shuredry samples today.

**Fulton Bag & Cotton Mills**
*Manufacturers Since 1870*
Atlanta St. Louis Dallas
Minneapolis Brooklyn New Orleans Kansas City, Kan.

NATIONAL
FD (Fire Dep't) Type Ejector

*for continuous foam production*

HAZARDS

Inflammable liquids such as gasoline, oil, paints, varnish, etc., are best protected through the medium of foam.

NATIONAL Foam Equipment and chemicals are approved by the Underwriters' Laboratories, Factory Mutual, U. S. Navy, Bureau of Steamboat Inspection, etc.

*Write for unusually interesting offer to Fire Departments.*

NATIONAL FOAM SYSTEM, INC.
Philadelphia and Branch Offices

# ADVERTISING INDEX

ADVERTISING PAYS IN FIRE ENGINEERING


| | Page |
|---|---|
| American Dist. Tele. Co. | 169 |
| American Rubber Mfg. Co. | 165 |
| American Steam Pump Co. | 169 |
| Anderson Coupling & Fire Supply Co. | 171 |
| Bi-Lateral Fire Hose Co. | 172 |
| Braxmar Co., C. G. | 161 |
| Buffalo Fire Appliance Co. | 171 |
| Cairns & Brother | 171 |
| Clay, Inc., John H. | 166 |
| Cooper Mfg., Clark | 166 |
| Cosgrave Company, The | Inside Back Cover |
| Day, Gus L. | 171 |
| Eastman Co., Samuel | 172 |
| Eddy Valve Co. | 166 |
| Eureka Fire Hose Mfg. Co. | 162 |
| Federal Electric Co. | 172 |
| Fulton Bag & Cotton Mills | 174 |
| Gamewell Company | 140 |
| Goodyear Tire & Rubber Co. | 137 |
| Hale Fire Pump Co. | 162 |
| Hedberg, J. N. | 166 |
| Hewitt-Gutta Percha Rubber Corp. | 172 |
| INFORMATION FOR BUYERS | 173 |
| Kaegi & Povelsen | 138-139 |
| Kohler Company | 161 |
| Linde Air Products Co. | 158 |
| Ludlow Valve Mfg. Co. | 172 |
| Luverne Fire Apparatus Co. | 165 |
| Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc. | Back Cover |
| Maxim Motor Co. | 158 |
| Mine Safety Appliances Co. | 158 |
| Morse & Son, Inc., Andrew J. | 172 |
| Multiplex Mfg. Co. | 171 |
| National Foam System, Inc. | 174 |
| New Stutz Fire Apparatus Co., Inc. | 135 |
| Northern Pump Co. | 171 |
| Pirsch & Sons, Inc., Peter | Inside Front Cover |
| Seagrave Corp. | 158 |
| Smith Mfg. Co., D. B. | 157 |
| Sterling Siren Fire Alarm Co., Inc. | 166 |
| Waterous Company | 166 |
| Wausau Fire Hose Protector Co. | 172 |
| Woodhouse Mfg. Co. | 166 |

# THE COSGRAVE SIREN

## is an ABSOLUTE NECESSITY if your town wants REAL PROTECTION!

THOUSANDS of dollars are spent every year on efficient fire fighting apparatus. Your town is no exception. Men are trained in the new and better ways of handling fires. On every hand steps are taken to make lives and property safe from fire.

Yet all the men and apparatus and knowledge are dependent on the call of your fire signal.

If your fire signal is an antique bell or whistle it's high time you urged the purchase of a fine electric coding siren that will get your men and apparatus out on the jump.

The Cosgrave Siren is the "self starter" of many efficient fire departments. It's loud, pleasant tone can be heard for miles around in all sorts of weather. It is a really fine piece of engineering skill, so designed that your local department electrician can install it easily. It needs practically no attention after being correctly installed.

Why not have all the story on this up-to-the-minute fire signal. We suggest that you write us for full information telling us frankly just what type of signal you are now using. You will not be obligated or subjected to high-pressure selling methods. Write now.

## REPRESENTATIVES

MEN of reputable character who are familiar with the fire protection business will be considered as authorized sales representatives in various territories still open. Applications will be handled in the order received. Only a limited number will be selected.

## THE COSGRAVE CO.

LYONS AVE. and COIT ST.
IRVINGTON, N. J.

# MANHATTAN Fire Hose

## BAPTIZED *by FIRE!*

—for 40 years, Manhattan Fire Hose has been a dependable weapon for protection of life and property.

—it is easy and speedy to handle.

—its record of unfailing service is amazing.

—it has truly been Baptized by Fire.

**The Manhattan Rubber Mfg. Division**
of RAYBESTOS-MANHATTAN, Inc.
Executive Offices and Factories
Passaic, New Jersey